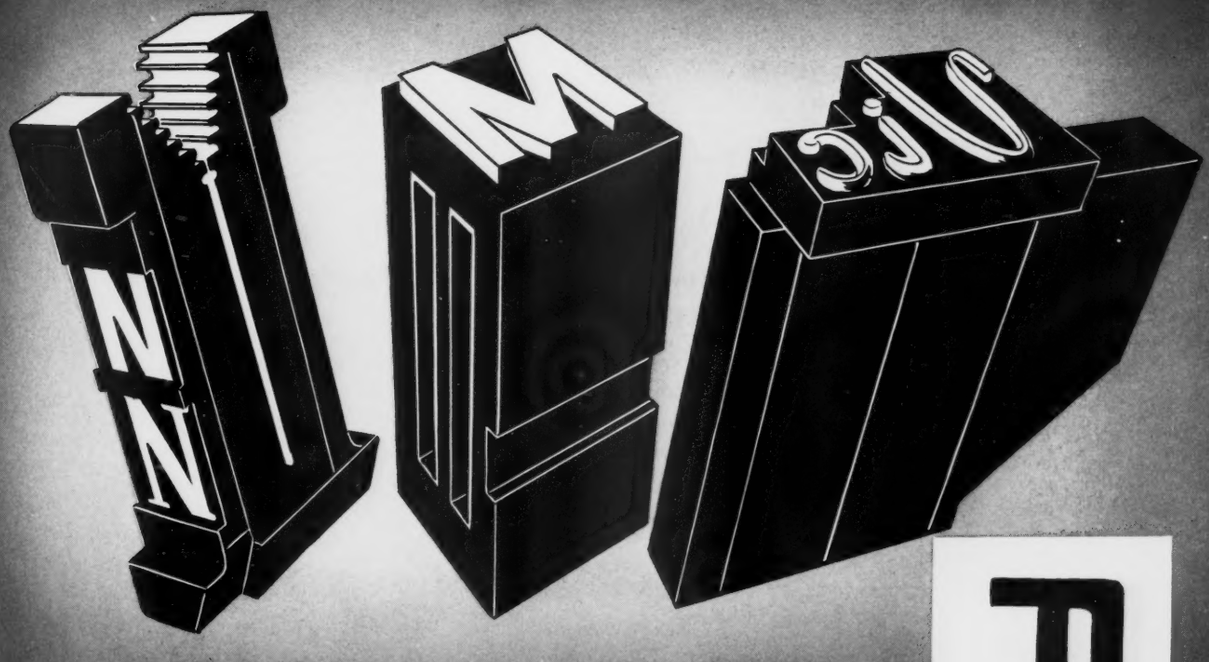
PRINTING EQUIPMENT ENGINEER



AUGUST 1939

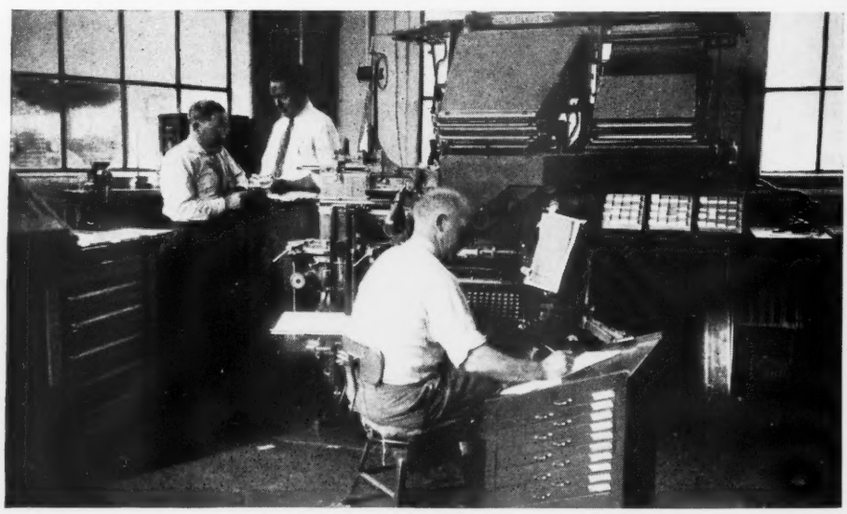
A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

QUIT FARMING—Barnes Printing Company, of New York City, do publication work—they print 20 monthly magazines, two weeklies, two dailies and several annuals, along with some miscellaneous work. Last year they found it was necessary to "farm out" a lot of composition in order to keep up with schedules. Now they've put a stop to that by placing two new Master Models at the head of their 7-machine Linotype line (No. 7 is around the corner). With these Linotypes and 80 easy-to-change magazines, they can keyboard 100% of their text matter and 90% of all their ads. Above: Foreman Mack Harris and Supt. Charles Stuart are checking over exclusive Linotype advantages on a Master Model.

TRADE **LINOTYPE** MARK

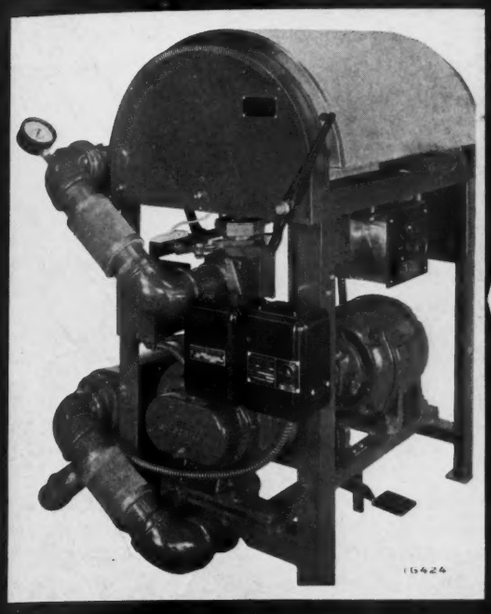
Set in Linotype Scotch No. 2 and Erbar Bold Condensed

ONE KEYBOARD operates both main and auxiliary magazines. Just stay in position and touch this shift key. What a time-saver! It's just one more exclusive Linotype advantage.

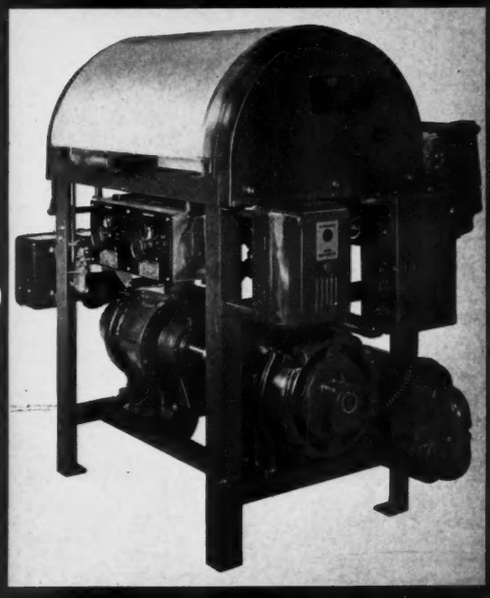


LABELERS—All over the world McCourt Gummed Labels guide packages to their destinations, tell you what's in those bottles from the drug store, perform a hundred-and-one other tasks. At the McCourt Label Cabinet Company, Bradford, Pennsylvania, this new Blue Streak Linotype plays a vital part in keeping production costs of these "stickers" to a minimum. Since 90% to 96% of all their machine composition is either centered or flushed, they say the Self-Quadder is indispensable. Standing by the machine are I. Rogalsky, vice-president, and J. A. Maxwell, composing-room foreman. At the keyboard is Alfred Moses, machinist-operator. If you've a specialized printing problem, Linotype may help to cut costs.

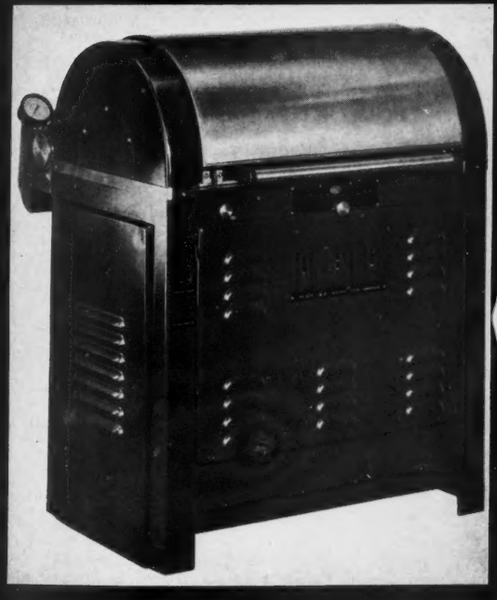
A REVIEW OF STAHI'S



Stahi Junior Former, supersedes our original Type M Vacuum Former. Does for the Smaller City Daily something no "scorcher" ever does—improves printing. Non-automatic, vacuum forming, electric baking of dry-mat. A complete slower speed machine. Can be fitted with The New Vacuum Shrinking Attachment at slight extra cost.



STAHI AUTOFORMER established new standards in dry-mat routine. Manual heat control for both sides dry-mat. Automatically-timed intervals effecting uniform product. Improved vacuum forming and electric baking units. Higher speed production. Can be fitted with New Automatic Vacuum Shrinking Attachment, at factory or in field at slight extra cost.



STAHI MASTER FORMER. Performance hitherto unknown in bringing out new qualities in dry-mats. Automatic Heat Control, Automatic Electronic Timers, Automatic Vacuum Forming Bolster Bars, New Full Floating Base Heater, Built-in Automatic Vacuum Shrinking Unit. New Radial Type Heating Elements. A complete Automatic Machine.

STAHI CORPORATION

1020 CROCKER STREET, LOS ANGELES, CALIF.

Costs

And production records in Colorado newspaper composing room arrived at in intelligent manner—Device for obtaining machine records explained.

By CLYDE E. MOFFITT*

MR. SUPERINTENDENT, how many times have you lost the argument with the office simply because you couldn't produce the figures? When questions of equipment, personnel, flow of work, etc., are being threshed out, maybe you know you are right, *but can you prove it?* And don't you wish you could?

If you are interested, here's my idea of a system to produce complete, accurate, simple cost and production figures at a minimum of expense and effort. In an attempt to keep the thing simple and leave no room for argument, everything is figured on actual column-inch measurements. There are no so-called "efficiency inches" and no "phat" that doesn't require any work.

I have tried to keep the necessary records as simple as possible. For that reason, all of the recording is done by whoever acts as recorder. Everything is in the hands of one man. There are no time cards for the boys to keep and the measuring and figuring can be done at your convenience. Accompanying this article is a reproduction of the record sheet I use. One such sheet, as you will note, shows a complete week. Everything is on the one sheet. I keep one and give a copy to the boss.

As you will notice, I have a record of the cost of flat-casts for both news and ads. Indirect labor is accounted for as well as overhead, including depreciation. The

(*Continued on Page 34*)

*Superintendent, Fort Collins (Colo.) *Express-Courier*. This topic was discussed by Mr. Moffitt at the Iowa Mechanical Conference, Des Moines, Ia., May 1939.

EXPRESS-COURIER PRODUCTION Week of May 8 to May 14

	MON.	TUES.	WED.	THRS.	FRI.	SUN.	TOTAL
A. B.C.	88	110²	51²	89	102	58	499
B. G.B.	91	143	95²	97	165²	110²	703
C. L.H.	243	180	139	194²	241²	160²	1159
D. S.S.	139²	173²	161	179	105²	164²	923
E. (Extra)	—	cut 115	Ovr 263²	—	—	Ovr 251	115/515
F. 6-Point	45	33²	34	23²	64²	35²	236
G. Mch. Set News Disp.	122²	98	78²	81	77	87²	545
H. Total	729	854	823	664	756	867	4580
I. Mch. Time	30	30	39²	30	30	28	195²
J. Killout	18²	9	14	11²	48	8	109
Sales	—	—	—	—	—	—	—

	MON.	TUES.	WED.	THRS.	FRI.	SUN.	TOTAL
K. Handset Heads	36	28	104	50²	36	64	319
L. Hand Time	15	15	15	15	15	15	90
M. Nat'l Adv.	46²	70²	111	213	22²	104	568
N. Local Adv.	431	171²	1104	668	183²	469²	3028
O. Total Adv.	536²	299	1275	936	270	636	3947
P. No. Pages	10	8	16	16	8	12	70
Q. Engraving	74	61	—	—	76	53	264
R. Indirect Labor	—	—	—	—	—	—	—
S. News Mats	14	13	15²	10	9	26	87²
T. Adv. Mats	11²	44	53²	30²	6	14	159²
Time Test	—	—	—	—	—	—	—

INDIRECT LABOR

Makeup . . . . . 42.75 — P. × 168 — 11,760 space
Proofing . . . . . 19.— — O. ÷ space — 36 %
Machinist 10.16
Supervision . . . . . 50.—
Overhead . . . . . 10.—
Total . . . . . 131.91 × 36 % — $ 48.77 Adv.

ADVERTISING

N. × x.0215 factor — 65.1 Mch time adv.
Mch. time + L. × 77¢ rate — $ 125.59 labor
N. + M. + K. — 3,915 inches
Labor cost ÷ inches — x.0321 cost per inch.

ENGRAVING, 264 inches in 14 hrs. @ 77¢ rate — $ 10.78

NEWS

I. less 65.1 hrs. ads — 130.4 hrs. on news
130.4 hrs. × 77¢ rate — $ 100.41 ÷ H. — .0219 cost per inch.

TOTAL COST

Advertising		News	
Composition	125.59	Composition	100.41
T. @ 8c	12.76	S. @ 7c	6.13
Indirect labor	48.77	Indirect labor	78.14
Overhead	39.63	Overhead	34.81
Grand total	$ 226.75	Grand total	$ 219.49

STEREOTYPE & PRESS $ 46.86

Fig. 1.—Specimen sheet filled in by Superintendent Moffitt of the Fort Collins (Colo.) Express-Courier, *and which contains production data for one week's operation. The original of this printed blank is 8½ in. by 11 in. Through Mr. Moffitt's system as explained in this article, the keeping of production records is reduced to the minimum. "This record," states Mr. Moffitt, "can be kept for 2% or less of the amount spent for direct labor, or less than 1% of the total." The records are obtained without the boys filling in time cards—something that isn't exactly to the liking of all journeymen. As is explained by Mr. Moffitt, through the use of an electric clock arrangement connected to the Linotype ejector lever controller lever, "sample runs" are obtained upon which machine composition production is based. Means for obtaining production records in other parts of the composing room are discussed by the author.*

Introducing LUDLOW Radiant Medium

A typographic star of the first magnitude is Radiant Medium, the newest member of the Ludlow Radiant family of typefaces. This sparkling face is vitally new, yet it has the legibility and attractiveness of a standard traditional face.

The vogue for monotone sans serifs has been world-wide and that for monotone flat serifs is at its height. Both have proven their worth and have taken their place among the standard typefaces of permanent value.

But the experience of centuries has taught us that, to attain the fullest measure of legibility, a typeface design must depend upon variation in weight of stroke to assure easy recognition of letters. So why not a basic design for a typeface, modern in concept—stripped of inessentials, and simple yet practical—having the variations in weight of stroke which contribute so effectively to ease of reading—a typeface which invites reading and combines modern style with legibility?

Why not indeed? The asking of these questions was responsible for the carefully-weighed decision to produce the Radiant family of typefaces. Ludlow is proud to present this family as representing a new trend in typeface design—a trend most clearly observable in the Radiant Medium. Other members of the Ludlow Radiant family now available are Radiant Bold Extra Condensed and Radiant Heavy.

A few sizes only of these three series are shown in the column at the right. Specimen sheets showing the full size range of any of these series will be gladly sent on request.

Ludlow Typograph Company
2032 Clybourn Avenue, Chicago

RADIANT MEDIUM

Brilliant Typefaces
18 Point

Smart Clothes
24 Point

Finer Model
30 Point

Personnel
36 Point

RADIANT BOLD EXTRA CONDENSED

Contemporary Art Exhibition
18 Point

County Music Festivals
24 Point

Educational Books
30 Point

Newest Method
36 Point

RADIANT HEAVY

Large Headings
18 Point

Demanding
24 Point

Masterful
30 Point

Bargain
36 Point

NEW YORK BECKONS

SEPTEMBER 25th TO OCTOBER 7th

NATIONAL GRAPHIC ARTS EXPOSITIONS, INC. 480 LEXINGTON AVENUE NEW YORK, N. Y.

CCA

Member of Controlled Circulation Audit

PRINTING Equipment ENGINEER

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A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

HER HAIR IS $\frac{150}{100,000}$ OF AN INCH IN DIAMETER!

The girl on the right has just measured one of her hairs in the Timken Hair Measuring Machine at the New York World's Fair. Now she has a better understanding of the expression "accurate to a hair". This machine is driving home to millions of visitors at the Fair the precision with which TIMKEN Bearings are manufactured. No one who sees the Timken Exhibit can fail to be impressed with the importance of having TIMKEN Bearings in his automobile or industrial machinery of any kind. Herein lies its primary purpose —to help manufacturers sell more Timken Bearing Equipped products. The Timken Exhibit is located in the Metals Building adjacent to the Trylon and Perisphere.

INTERESTING HIGHLIGHTS OF THE TIMKEN EXHIBIT

One of the first automobiles to be equipped with TIMKEN Bearings.

A TIMKEN Roll Neck Bearing having a load capacity of nearly three million pounds.

A machine that measures the thickness of a human hair in hundred-thousandths of an inch, as a demonstration of the precision with which TIMKEN Bearings are made.

A diorama showing in miniature the world's largest electric steel furnace—capacity 75 tons of steel per heat.

A TIMKEN Fuel Injection Pump cut away to show the internal mechanism in operation.

The various parts of a TIMKEN Bearing automatically assembling and disassembling to demonstrate the tapered design and construction of the TIMKEN Bearing.

A display dramatizing the Timken Roller Bearing Company's contributions to modern locomotive design—including TIMKEN Locomotive Bearings, main rods, side rods and other reciprocataing parts.

And

THE TIMKEN ROLLER SKATERS in a sensational novlty act performed on a platform only nine feet in diameter elevated seven feet above the floor. The skaters perform ten times daily.

Also be sure to see the many Timken Bearing Equipped locomotives and cars in the Railway Track Exhibit.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Printers Can Capitalize this National "Profits for Printers" Campaign

"My bid is low —I'll take a loss"
Should your printer make a profit?
"My bid is low —I'll make a profit"
EVERY buyer of printing wants a good price. But really shrewd buyers insist on something more. They *insist* that their printers make a *profit*. Strange? Not at all! Experienced printing buyers don't believe in fairy tales. They know a profitless order in the printing business is no more attractive or treated any better than a profitless order in their own business. So for their *own* protection... to make sure that good prices also bring good printing... they insist on knowing the "why" of any successful quotation.
There is only one way *any* printer can deliver both high quality and low price in the same order today... and still have a reasonable profit left in the job. That is with modern high speed presses. All of the costs in printing like paper, ink, wage scales, etc., are normally the same for whoever gets the job. The only variables where real savings can be made without cutting into quality or the printer's just and necessary profit are the time needed for making presses ready for printing and press running time. And these are the two cost items which modern high speed Miehle Presses cut drastically.
When your printer says "I'll print it on a Miehle" he's guaranteeing *good* printing at a *good* price – with a fair profit for himself which is *good* business for both buyer and seller.
MIEHLE PRINTING PRESS & MFG. CO.
World's Largest Builder of Printing Presses
14th Street and Damen Avenue, Chicago, Illinois
IT PAYS TO PRINT IT ON A Miehle

Shown above is the second advertisement in the Miehle National Advertising Campaign. It appears in Fortune Magazine for September 1939.

Beyond the fact that this is Miehle's advertising, it is also advertising for the printer . . . for the printer who is shrewd enough, wise enough, quick enough to tie into it and make it his own. This is not ordinary promotional sop tossed out with an eye to its effect on the printer. It is a sane, sound, convincing and moving campaign that shows results for the printer who is also a good business man. Write if you want full details.

MIEHLE PRINTING PRESS & MFG. CO.
World's Largest Builder of Printing Presses
14th Street and Damen Avenue **Chicago, Illinois**

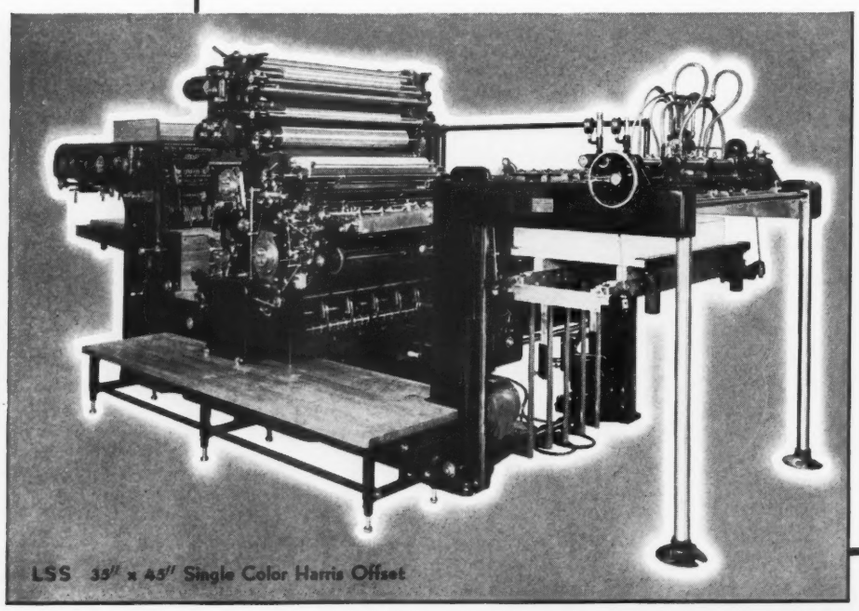
Your Offset Customer

gets what he asks for

Harris Press Performance links your customers with your pressroom in a manner that ensures Good Will and Future Business

You can profitably keep this well known Harris statement in mind — "The greatest number of high quality, Salable sheets at the end of each day's run."

Back of that phrase are years of consistent Harris successes. Basically, it means that the pioneer builders of successful Offset Presses have made Craftsmanship a necessary part of press building as well as Pressroom production. With Harris Presses you deliver the kind of Offset demanded by today's modern business.



LSS 35" x 45" Single Color Harris Offset

HARRIS *Litho Chemicals*

• Through research Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

★ *Pioneer Builders of Successful Offset Presses*

HARRIS · SEYBOLD POTTER *Company*

General Offices: 4510 East 71st Street, Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd Street; Chicago, 343 South Dearborn Street; Dayton, 819 Washington Street; Atlanta, (Harris • Seybold • Potter Service Corp.) 120 Spring Street, N. W.; San Francisco, 420 Market Street • *Factories:* Cleveland, Dayton.

★ HARRIS PERFORMANCE THAT REFLECTS CRAFTSMANSHIP

(SEE CLYDE E. MOFFITT'S NEWSPAPER PRODUCTION COST ARTICLE PAGE 4)

Getting to the Graphic Arts Exposition

By MAC SINCLAIR

MANY printing plant managers, of course, act as their own mechanical executive. Others delegate that responsibility to competent men who understand that printing ought to be produced at lowest cost and at a profit. There is another group of plant managers who, while retaining their interest in actual plant production and things technological are guided by the advice of their mechanical executives because of the pressure of management duties or because they feel two heads are better than one. There is much to be said for the plant manager who counsels with his mechanical executive personnel—usually he is the man who gets and holds maximum interest of those with whom he is associated.

All of this is by way of suggesting to you that you should attend the most important event that has taken place in the printing industry in several years. Getting to the National Graphic Arts Exposition as your employer's representative or going with him, may entail some ingenuity in persuading him why it is important that he send you as his representative to study modern printing equipment.

Most printing plant business executives are ambitious. They want to see their business expand. Quite often, however, they do not realize that poor business conditions may be attributable to something other than "the state of trade." More importantly, your employer may be overlooking a field which might be profitable in your community; perhaps both of you are overlooking the major factors of obsolescence—in method and machinery. Since you have his interests at heart and by reason of your mechanical executive capacity in his plant, you are the logical person to call these things to his attention. As the result of attending the Exposition you, as his representative, can demonstrate to him how certain changes in equipment, processes or methods might be the means for streamlining production to modern business conditions. We all like to think we're modern. The surest way to check on this is to attend some major event like the Exposition.

With respect to your present plant equipment, both your employer and yourself know what can be done with it. Both of you know the limitations of that equipment. You have discussed it from time to time and there isn't anything that can be done to expand its productive usefulness, nor to increase the cost and profit margin. Somehow or other, the old equipment just doesn't seem to permit making a normal profit. There is a reason. A trip to the Exposition, by comparison, will reveal the weaknesses of your present equipment and will be the means of showing how modern equipment will start the old profit coming in. That is, the trip will do this if you are a wide-awake executive.

With today's cost-conscious executives, there is so much to investigate in relation to printing

equipment. New and improved composing room machinery and equipment, plate-making by several processes, specialty machines for doing certain work with speed and precision. New high-speed presses endowed with energy and fleet heels do their stuff at speeds which, by comparison with the older equipment in your plant will cause you to feel there has been momentous technological progress in the printing industry. All this since the time several years ago when, after having installed the latest equipment then available, you felt your firm could meet all competition for a long time to come.

Being interested in your craft and being wide awake to your employer's interests, you know there has been great progress in equipment design. You have scanned trade literature from month to month. However, you probably have not realized the extent of this progress. Now, with this concentrated assemblage of modern production tools you can study the equipment items affecting your own plant and at the same time be in a position to make an interesting report to your employer.

How can you have a normal equipment perspective? Surely you don't think you can formulate trustworthy opinions solely from your present plant equipment? You might know your plant but how does it compare with other plants in which modern machinery is being operated at a profit? Well, you just can't hope to have a normal viewpoint unless you may be permitted to see these new machines so that, by comparison, study and analysis, you may formulate an opinion.

The production or mechanical executive who does not look beyond the humdrum productive capacity of the present equipment over which he has supervision certainly is neglectful of his first duty to his employer. It is the executive's duty *to know* the weaknesses in his present equipment and to counsel with his boss respecting the possibilities for suiting that equipment to today's conditions.

Think beyond the horizon! If you have been neglectful, get out the old prod—give yourself a good poke and go see the boss about attending the Exposition!

Editorial

What Shall I Do With It?

MANY clever things for improving printing production are developed by production and mechanical executives. Naturally, after the idea has been developed to the point where the inventor feels it will perform the function for which it was designed, the question arises "What shall I do with it?"

Sometimes, as the result of bad advice, "laymen" inventors may overestimate the value or utility of their inventions and may exaggerate the amount of money which can be realized from sales. The enthusiasm which carries these "laymen" inventors along to perfect their brain children is entirely rational, but this enthusiasm expressed in terms of financial reward often is irrational.

Recently, an acquaintance of our's took out a patent at some expense for patent office and attorney's fees. With the assistance of a few friends, he incorporated a company at additional expense. The device was estimated to sell at $200. The total outstanding number of machines to which the device could be attached was about 250. If it were possible to sell the device for application to 100% of the outstanding machines, the gross receipts would be $50,000. Unfortunately, the possible market in this instance was 25 customers, or total gross receipts of $6250. Counting manufacturing, service, advertising and sales promotion costs, it is apparent that the venture from a financial standpoint couldn't possibly pay dividends to the investors nor commensurate reward to the inventor.

Most printing plant executives are not in a position to do sales promotion work. Several alternatives, however, are open for disposition of an invention.

(1) The company for which you work, by reason of the device having been developed on company time and property may wish to handle the invention on a financial basis agreeable to both parties. In such cases, the inventor usually assigns the patent to his company. If the company does not wish to handle the device, you may secure a release to that effect.

(2) Sell the patent outright to a manufacturer.

(3) Enter into an agreement with a manufacturer to make and sell on royalty or commission basis.

(4) Have the device made locally and sell through manufacturers or dealers who cover the field in which the device can be utilized.

Monotype Fournier

Monotype Fournier, announces Lanston Monotype Machine Company, is a faithful copy of the English Monotype Corporation's Fournier Old Face and has been reproduced by premission. The roman of the face is slightly condensed while the italic is inclined to wideness.

Roman, Italic and Small Caps are available for Monotype machine typesetting in 8, 10 and 12 pt.; roman for hand composition in 14 to 36 pt., and italic in 14 and 18 pt.

Monotype Fournier
Series Number 403

To Benefit From Endowment

The Rochester Athenaeum and Mechanics Institute will benefit from a drive for more endowment to close December 31, 1940. An unknown donor will grant the Institute $400,000 for endowment provided $600,000 can be raised by other means.

The Printing Department, started in 1937, is one of ten departments of the oldest Rochester educational institution, which was founded in 1829. A two-year post high school printing course is offered on the professional level.

August Issue of "Who's Who"

The August number of *Who's Who in the Composing Room*, contains a detailed account of the A.N.P.A. and S.N.P.A. Mechanical conferences, another treatise on proofreading by Joseph Lasky, and other articles of interest to composing room workers. Copies will be sent upon request to Intertype Corporation, 360 Furman Street, Brooklyn, N. Y.

Little Encyclopedia for Ink Problems

By STAFF WRITER

When Ink Fails to Follow Fountain Roller. Such an ink is sometimes said to back away from the fountain roller in the printing press or to have insufficient flow, mobility or fluidity.

To follow the steel fountain roller is the first requirement of workability. An ink that does not follow the fountain roller is, in the phraseology of physics, of too high cohesion. Cohesion is the mutual attraction between the particles of the same substance or the resistance the substance offers to deformation. An ink with low cohesion is long, *i.e.*, is readily drown out in a string or spread. An ink with high cohesion offers more resistance to deformation and breaks off short when the knife blade is used to draw it out into a string or spread it. An ink that has insufficient length is said to be a short ink, in which the force of cohesion is greater than the force of adhesion, the attraction between the surfaces of bodies in contact.

Both Viscous Liquid—Plastic Solid Ink has characteristics of both a viscous liquid and a plastic solid. When a liquid or a plastic solid comes in contact with a solid like the fountain roller, the adhesion between fluid and solid is stronger than the cohesion of the fluid, the steel is wet with the fluid when the two are separated and the fluid tends to string out and follow the solid. On this quality of adhesion or tack largely depends the workability of the ink, following the fountain roller instead of balling up in the fountain and distributing on the inking system of the press and not merely rolling up into balls. In a very short ink the force of cohesion is stronger than the force of adhesion and the short ink will not follow the fountain roller.

Rigidity. Rigidity is the opposite of fluidity. A rigid or stiff ink will not readily move until a certain force is used to overcome the rigidity.

If an ink does not freely follow the fountain roller, the ductor roller cannot get the correct supply of ink for transfer to the ink plate and hence it is impossible to maintain uniform color.

The best corrective is the substitution of a more suitable ink. When this is not possible, the ink may be worked up with manual or mechanical agitation or the accessory utilized which turns the fountain roller upward instead of downward. Just enough of any one of the heavy lithograph varnishes from No. 3 to No. 8 to increase the tack or adhesion between the steel roller and the ink may be added.

When Ink Cakes or Piles on Form. When an ink cakes or piles on the solids and fills the screen and detail of a plate it is too soft and greasy and lacks flow, length and tack. Caking differs from filling in that the spots are thicker and larger as a rule than in filling. Caking shows like spots of flattened mud, filling like specks of dust or dirt. Corrective is to add just enough of any one of the heavy litho varnishes from No. 3 to Number 8, both inclusive. These varnishes range in viscosity from No. 00000 up to the medium varnishes No. 0 and No. 1 and from the latter up through No. 3 to No. 8. Less of the heavier varnishes is needed to raise viscosity. Another form of caking is that of pigment on ink plate caused by waterlogged rollers lacking tack to carry the pigment. The rollers become covered with varnish, the plate with pigment, little of the latter reaching the form.

Chalking on Paper. This trouble is most common on surface coated paper. The capillary attraction, depending on the porosity of the paper, absorption by its fibers and the filtration of the ink vehicle through the spaces between the fibers unite to suck the vehicle into the paper, leaving the pigment on the surface unsecured and easily rubbed off in the form of chalk.

Too much absorption and too free penetration of the vehicle may be checked by adding heavy varnish and paste drier to the ink. An ink should dry on coated paper, firmly bound to the coating, in twelve hours or over night.

Collecting. When both screen and fine detail and solids are marked by numerous specks, a glass of linen tester strength may be used to scan the print and form to determine the causes. The specks may be dust and dirt from the paper container, paper cutter table, feedboard, brush or crossrods of press. Or the specks may be dried ink from can, fountain and inking system. Again, it may be picking of particles of coating or other material on the paper. If the stock has a very poor surface not much can be done in some instances, as when the mere squeeze of the impression loosens particles from the faulty surface. Dust in the air of pressroom also adds to collecting trouble. Some of the correctives are to keep down the quantity of dust in the air, open paper containers carefully to get rid of dust and dirt, trim paper sheets on four edges to get rid of edge dust, keep brush, feedboard and crossrods clean, use a vacuum sheet cleaner attachment on the press and use ink free from specks in the can and fountain. The last suggestion implies keeping the fountain and its steel roller clean at all times. It is a bad habit to change ink in fountain without thorough and complete washup. Half-dried ink left on the steel fountain roller may be picked off by the ductor roller. This last form of collecting is similar to that of pickoff of ink not well set by another ink superimposed on it, as, for a well known example, the pickoff of first down process yellow by process red.

Cleanliness is one corrective and reducing the stiffness and tack of the ink often helps, using care against making it too soft and greasy. A small percentage of lanolin or petrolatum may be added with safety. To demonstrate the harmlessness of lanolin which is the refined grease from sheep's wool, we will state it is the best healer of chapped hands, superior to glycerin and rosewater, honey and almond. Lanolin is salve- or wax-like in body with considerable length, while petrolatum is short. Lanolin gives lift to the ink. It becomes less stiff or rigid under the friction of the inking system, the heat and that of a sheet heater lowering its viscosity. (Grease from cattle hide, in this connection may be cited as a fine dressing for leather belts, air-spring leather, razor strops, etc.). In stubborn cases of picking, a little paraffin oil may be added. If color must be retained 100%, add softer ink, as, for example, special soft reducing halftone black to halftone black. The soft ink contains twice as much pigment in soft No. 000 varnish.

Crystallization. When an ink in multicolor or process printing has a hard, glassy surface which fails to trap superposed ink because it cannot take on the hard, smooth film, the first down ink is said to have crystallized, manifestly a misnomer. The ink to be superposed may be given grip to take hold on the slick surface with an addition of melted waxes and gloss varnish, equal parts beeswax and paraffin wax and gloss drying varnish, an ounce of the addition to the pound of ink. The waxes are first melted, next mixed with the varnish and the mixture then thoroughly mixed with the ink, previously warmed.

Distribution Faulty. Viscosity, length and adhesion are all involved in distribution, starting at the fountain and proceeding on the ductor roller and the remaining parts of the inking system. Length also controls the lay and levelling of the ink film spread on the ink plate, transferred to the printing plate and again transferred to paper. Either too great or insufficient length may cause poor distribution. The correct median is obtained by adding one of the heavier varnishes to a soft and one of the softer varnishes to a heavy ink. The principal standard inks are stocked in three bodies or consistencies: soft, medium and heavy and the printer who carries a bond black ink in these three bodies can alter either one accurately, easily and quickly by adding a percentage of one of the others without decreasing the blackness of the ink.

Drying Too Rapidly. An extremely fast drying ink may even dry on the ink plate and rollers while the press is running, from a start with fresh ink without a press stop. Such an ink is unsuitable and should be returned in exchange for one drying normally. To some extent, drying may be retarded by adding lanolin or petrolatum to the ink.

Drying Too Slowly. When an ink requires an unusually long period of time to dry, the cause may be excessive humidity, which leads to moisture absorption by both paper and ink, retarding drying of the ink. Corrective is to decrease humidity and add a powerful naphthenate drier. Heat aids drying. So do sunlight and especially good ventilation. The ink absorbs a definite quantity of oxygen, which in turn requires a definite and very considerable quantity of fresh air. There are various types of driers and the one suited to the job in hand may be added when slow drying is an obstacle. Sometimes substitution of a fast, hard drying, non-scratch, non-rub, ink is indicated, such inks being best adapted for immediate forwarding to folder, paper cutter, etc.

Fading of Color. Fading of color and loss of brightness and gloss occur when an ink penetrates or is absorbed into the paper too rapidly. Corrective is to add heavy varnish and drier to retard penetration and to add more concentrated color in ink form to reinforce the color strength.

Hazy Print. When the print is hazy although the ink appears well distributed and laying smoothly on the inking system, the ink is not at fault. The rollers may not be set in firm enough contact with the form, may be out of round and lacking in resiliency. Plates may be too low and not level.

Lifting Poor. This is the cause of caking and piling and the corrective is to improve the workability of the ink with a heavy varnish with suitable flow, length and tack.

Mottle or Blotched Print. Generally is a symptom of using too much ink, lacking in viscosity, length, tack and very often in concentrated color strength and brightness. Correctives: Use heavy varnish to improve the vehicle and concentrated and brighter color in ink form to improve the color.

No Snap to Color. Same correctives are used as for mottle.

XXth Craftsmen's Convention

PROGRAM details for the XXth Annual Convention of the International Association of Printing House Craftsmen are now taking shape after months of planning by General Chairmen Harvey Glover, committee chairmen and members of the New York Club of Printing House Craftsmen. The convention will be held at the Waldorf Astoria Hotel, New York, from Sunday, September 24 to 28. The attendance at this year's convention is expected to exceed that of any previous Craftsmen's convention because other Graphic Arts groups, including the U.T.A., National Association of Photo-lithographers and the I.T.C.A. will hold their annual meetings within the two weeks assigned to the National Graphic Arts Exposition. A further drawing card is the New York World's Fair.

Never before has there been such a concentration of means to acquire technical information about any or all branches of your industry. The dream of many a plant executive in wanting to visit the Americas' largest city can very well be realized during convention and printing equipment exposition week.

Speaking particularly of the program being prepared by Chairman Michael Stevens and his committee, every effort is being made to present an exceedingly worth while technical program. Clinics, which have been fostered at Craftsmen's conventions for several years, will hold a most prominent place on the program this year.

The tentative program is as follows:

Hon. Augustus E. Giegengack, United States Public Printer, and President of the National Graphic Arts Exposition, will open the Exposition formally on Monday afternoon, September 25.

Fred A. Hoch, Craftsmen's International Second Vice President and Manager of National Graphic Arts Exposition, with his staff have worked hard to make the Exposition successful.

Sunday, September 24

Morning and Afternoon—Registration of Delegates and Visitors. Sightseeing jaunt.

8 p.m.—Convention Opening. General Chairman Harvey Glover.
Address of Welcome, Attorney General John J. Bennett, Jr.
Special Musical Program.
Surprise Novelty.

Monday, September 25

Registration

9 a.m.—Mayor Fiorella H. LaGuardia will welcome Craftsmen to New York.
Typographical Clinic, Chairman, Melvin H. Loos, Columbia University Press, New York.
Magical Making of Dry Colors Clinic, Chairman, Paul J. McMullen, Sherwin Williams Company.

Monday Afternoon

Hon. A. E. Giegengack, United States Public Printer, will conduct opening ceremonies of the Fifth Educational Graphic Arts Exposition at Grand Central Palace. At this time the new United States postage stamp (3c denomination) commemorating the 300th anniversary of printing in America will be dedicated.

Special Entertainment for Craftsmen

Arthur "Bugs" Baer (center) famous humorist and newspaper columnist will be master of ceremonies in entertainment program to be presented during the XXth Craftsmen's Convention Banquet and Reception at the Waldorf Astoria, New York, Tuesday night, September 26. At left is Ole Olsen and at right is "Chic" Johnson, of famous team, Olsen & Johnson. In addition, the New York Craftsmen's Club's Entertainment Committee has engaged Bobby Clark, said to cause riots of laughter, and Carmen Miranda otherwise known as the "bundle of Brazilian dynamite."

Committee Chairmen

XXth Annual Convention International Association of Printing House Craftsmen

General Chairman, Harvey Glover
Executive Committee, Harvey Glover
Budget Committee, Quincy P. Emery
Underwriting Committee, Perry R. Long
Speakers and Clinics Committee, Michael R. Stevens
Souvenir and Badge Committee, Stephen R. Lambert
Publicity Committee, Russ Birchfield
Hotel Reservations Committee, Joseph F. Herberger
Reception Committee, James J. Hatton
Tickets and Registration Committee, Charles F. Trapp
Auto and Sightseeing Committee, Fred A. Travelina
Entertainment Committee, John A. Donald
World's Fair Day Committee, John A. Wilkens
Printing Committee, Richard L. Jones

Harvey Glover, President of the New York Club of Printing House Craftsmen and General Chairman, XXth Annual Craftsmen's Convention.

John Donald, First Vice President, New York Craftsmen's Club, and Entertainment Committee Chairman, XXth International Craftsmen's Convention.

Tuesday, September 26

9 a.m.—The convention will be divided into clinics as follows: Pressroom Clinic, Chairman, Watson B. Laughton, Cuneo Eastern Press, Philadelphia; J. Homer Winkler, Ace Electrotype Company, Cleveland, will discuss *Electrotypes*.

Offset Clinic, Chairman, William J. Wilkinson, Zeese Wilkinson Company, Long Island City.

Tuesday Evening

Grand Banquet and Reception with Arthur "Bugs" Baer as Master of Ceremonies and entertainers from Broadway's leading shows.

Wednesday, September 27

9 a.m.—Convention session.

Afternoon and Evening—World's Fair, Luncheon and Sightseeing.

Entertainment

Entertainment Chairman John Donald and his committee have prepared a varied entertainment program for the ladies while the men are attending the XXth Annual Convention of the International Association of Printing House Craftsmen, Sept. 24 to Oct. 8, at the Waldorf Astoria, New York. Some of the tentative entertainment features are as follows:

*Sightseeing tour of New York by car.

Personally conducted tour through the French liner Normandie.

Choice of half-hour flight over New York City or visit to Hayden Planetarium.

Attendance at a national radio broadcast.

Luncheon at Astor Roof.

Luncheon at Waldorf Astoria with nationally known newspaper women commentators.

*Banquet at Waldorf Astoria with some of Broadway's most talented entertainers.

*Day at World's fair with luncheon.

**Events include attendance by the men.*

Change of Name

The name of the firm formerly known as U.P.M.-Kidder Press Company, Inc., has been changed to Kidder Press Company, Inc., effective July 1. Company officials state that this change in name is for convenience only, and reflects no change in organization, personnel or policy.

Announces Appointment

As one of its representatives in the bookbinding industry, Chandler & Price, of Cleveland, announces the appointment of E. C. Fuller and Co., New York and Chicago. The Fuller organization has served the bookbinding industry for many years and this industry will now supply Chandler & Price Paper Cutters as well as heavy and super heavy-duty automatic press units for cutting, scoring, creasing, blanking, and embossing work.

New Intertype Matrix Faces

Among the new faces announced by Intertype Corporation this month are 14 point Futura Medium with Oblique and 14 point

THIS PARAGRAPH is set in the 14 point size of Futura Medium *with Oblique* 123

THIS Paragraph set in the 14 point Futura Demibold *with Oblique* 1234567890

ABC abcdefghijkl 123
ABC abcdefghijkl 123

Futura Demibold with Oblique. In addition, the specimens show 18 point Cairo Bold Condensed with Medium Condensed.

Clippers to Federal Printing

A carload of Kelly Clippers (four presses), claimed to be this year's largest single order for new printing equipment, has been shipped to Federal Printing Company, Cleveland.

Trayser Elected to ATF Board

American Type Founders' President Thomas Roy Jones recently announced the election of Lewis W. Trayser, Director of Manufacturing of the Curtis Publishing Company, as a member of the Board of Directors of American Type Founders, Inc. "Mr. Trayser," reads the announcement, "is a director and member of the Executive Committee of the Curtis Publishing Company and has been in complete charge of production of the Curtis publications for the past four years. He is largely responsible for the perfection of the Curtis 4-and-4 Precision Color Process, adopted by the Curtis Company last year, by means of which high-speed printing of four colors on both sides of a magazine page in one operation was made practical.

"American Type Founders is delighted to have Mr. Trayser rejoin its organization as a

member of the board of directors," stated President Jones, "both because of his intimate knowledge of letterpress and offset printing and because of his acquaintance with the affairs of the company gained during his years as a member of our sales and engineering departments."

Mr. Trayser was born in 1895 in St. Louis, Mo. His first employment was with the Woodward & Tiernan Printing Company of that city. After some five years as apprentice and journeyman printer, he joined the U. S. Army at the time of the World War. Enlisting as a private, he was discharged in 1919 as a Second Lieutenant of Infantry. Immediately thereafter he attended the Harvard Graduate School of Business Administration, his field work being done in the lithographic industry. His previous connection with American Type Founders Inc., commenced in 1921 and continued through 1924.

In 1931 Trayser went to Curtis Publishing Company as Assistant Supervisor of Manufacturing. He became Director of Manufacturing in 1935, having been elected a director and member of the Executive Committee of the company the previous year. The Curtis plant employs some 1800 workers and produces on the average a million magazines a day.

Monger Appointment

P. A. Monger, who for twelve years was connected with Western Newspaper Union, has been appointed to the sales staff of the Lake Erie Engineering Corporation. Mr. Monger has wide experience in commercial stereotyping and rubber plate making.

NIGHT-TIME VIEW *of glass-block air-conditioned building for the Ottawa (Ill.)* Daily Republican-Times. *Glass block construction admits ample light to perform mechanical operations by natural light except on very cloudy days—stops sun glare and heat, insulates against cold, does not frost or sweat, reports Superintendent Gonigam, who also states "Our boys say they like being shut off from outside view—the day really seems shorter."*

Glass House

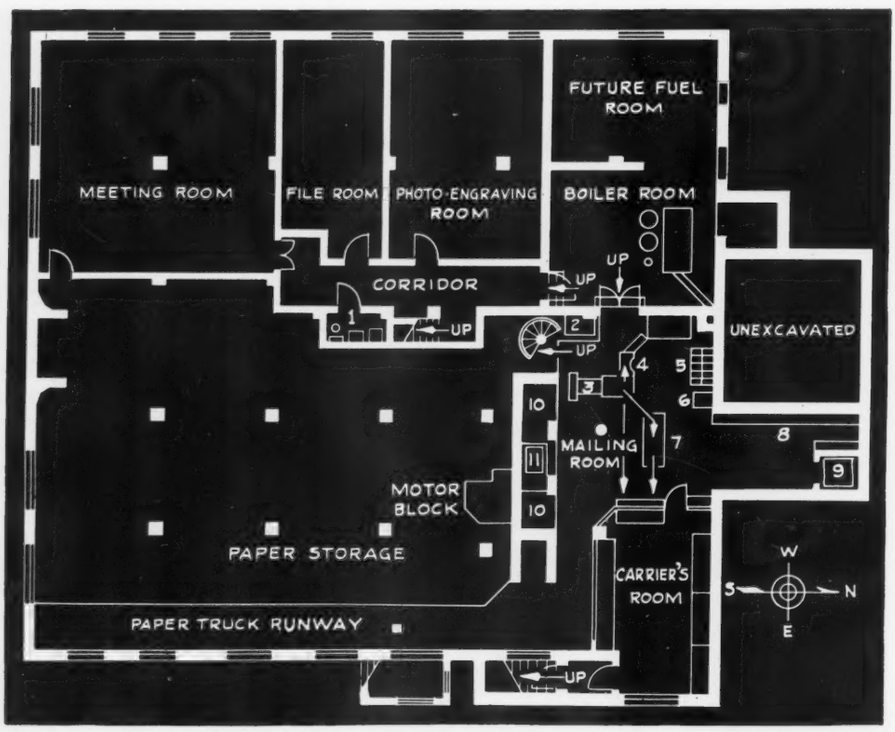
Air conditioning, modern equipment and streamlined production layout all combined to produce Ottawa (Ill.) Daily Republican-Times.

THE new building of the Ottawa (Ill.) *Republican-Times*, is one-story construction with full-height usable basement. The exterior is entirely windowless and the interior completely year-round air-conditioned. An artesian well 176 ft. deep was drilled beneath the northwest corner of the building, the pump being in the basement. Capacity is 300 gal. of water per min. While absolutely pure for drinking, the water is used only for the air conditioning of the building. Pumping tests show the water in the well maintains a constant temperature of 53 deg., ideal for air conditioning purposes.

Refrigerated city water is supplied to all departments, and ample locker space, wash facilities and two shower baths are provided for the mechanical departments.

The lines of the building follow modernistic trend, all exterior walls are of smooth light gray face brick and glass blocks trimmed with limestone, producing an attractive appearance. The large areas of glass blocks on front and side walls afford a flood of natural diffused light to all corners of every office and all the mechanical departments. These blocks have semi-vacuum centers to provide insulation against heat and cold. All exterior exposed metal, including the canopy and lettering, is aluminum. No other ornamentation embellishes the exterior.

In planning, every consideration was given to space allotment to the various departments, production flow line and future expansion. Room for additional personnel and equipment assures production of a daily commensurate with increased population without enlargement of the building. Definite space has been assigned for probable future additional equipment which can be set in place without disturbing present units. Despite the compact



Basement Floor Plan *in new building of Ottawa (Ill.)* Daily Republican-Times. *Besides paper storage facilities supplied by trucks from the runway, there are a meetingroom holding 75 people and a photo-engraving room. Identifications are as follows:*

1—Toilet
2—Resistor
3—Delivery Table
4—Addressing Machine
5—Mail Bag Racks
6—Scale
7—Route Delivery
8—Roller Cabinet
9—Elevator
10—Press Foundations
11—Ink Tank

arrangement, provision has been made for a 25% to 35% expansion of most of the mechanical operations.

The building is of fireproof construction, with non-inflammable materials in walls, floors, ceilings and roof. Office floors are covered with rubber and asphalt tile, floors of work rooms with wood block laid on end.

"Wet" Roof

A constant 74 deg. F. in the mechanical departments is maintained. Other portions of the building are served by a separate unit and follow outdoor temperatures within certain limits. In connection with the air conditioning a wet roof is carried. Water discharged from the cooling coils is carried to the roof, which is so designed that from ½ in. to 2½ in. of water always is present, as insulation against heat in summer and year-round roof protection.

The first floor is three feet above the sidewalk. The public lobby is entered through a vestibule. On the right of this lobby are the editorial departments with separate offices for the managing editor, proofreaders and a large library alcove. Directly to the rear is the composing room.

Connected with the composing room are the photoengraving, press and stereotype rooms. Insulated walls and locker rooms between workrooms and offices deaden sound. All ceilings are acoustically treated.

Basement Plan

In the basement are the delivery and mailing departments, reached by the newspapers in a continuous flow through an automatic conveyor attached to the press. Also in the basement are the photo-engraving room, paper storage room with capacity of six carloads of roll newsprint, group meeting room seating 75 people, room for the storage of files and records, a large boiler room and another in which is located the air conditioning equipment. The building is heated by oil, with large storage room for coal, should it be necessary to revert to that type of fuel.

Least Lost Motion

The positions of the various mechanical departments (all on one floor) have been so arranged that in the production processes the flow of work is continuous in one direction, without retracing or blocking up and with a minimum of lost motion.

Steel Furniture Used

Products of Angle Steel Stool Company in use include mat packing and routing tables in the stereotype department, copy cutter's tables, Linotype operators' chairs and stands in the composing room; pressroom work benches, ink roller storage cabinets, waste cans for composing room and pressroom; bundling tables, mail bag racks, printed paper dollies for mailing room; addressograph tables and paper receiving bin, storage cabinets for bound volume files, reference tables in library and filing room; seating in pressroom, editorial room, locker room, library and newsroom. Hobart steel desks and mat and cut storage cabinets are used.

Determining Composing Room Floor Plan

The composing room floor play layout was produced by the collaboration of American Type Founders Co. engineering department, the architect and *Republican-Times* executives, to keep production moving forward in a crescent or L-shaped line from the sources of news and advertising copy to the finished newspapers on the delivery and mailing tables.

First step was making a scale model of the proposed floor plan. Then scale models in cardboard were made of every piece of equipment, needed, anticipated and desired. A series of trial arrangement followed, with unrestricted criticisms and suggestions from many sources. Finally, the scale model units were permanently fastened to the floor plan, which was then submitted to the architects and the type founders' engineers. Two widely different floor plans, both different from the *Republican-Times*' plan, came back. Then the three floor plans were compared and what seemed best in each was included in a fourth plan, which was again submitted to the architects and engineers. With only slight modifications this last floor plan was approved by all concerned.

Lighting

First consideration was given to lighting. All processes requiring maximum light are closest to the glass block walls. To provide light for occasional night work, 300 W. silver bowl lamps with 18-in. porcelain reflectors are located on 8 ft. centers at a height of 9 ft. Special lighting is from individual lamps of suitable type.

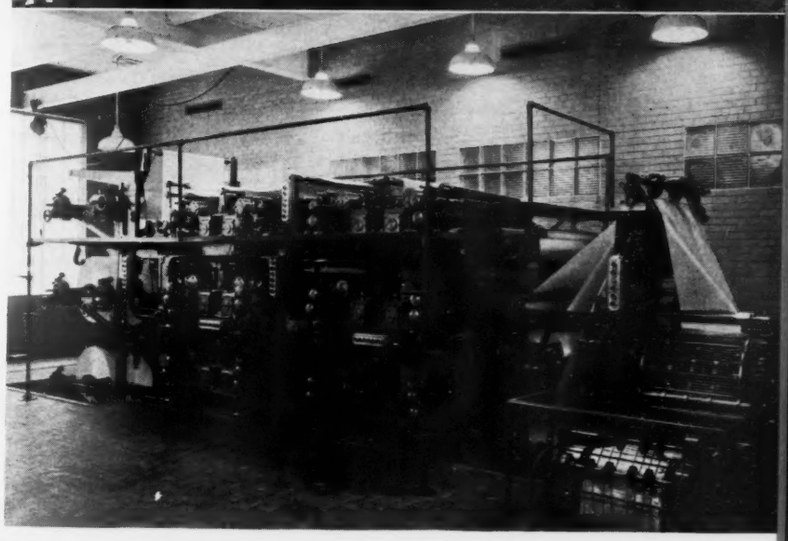
Floors

Floors in the mechanical departments are hard pine blocks on end laid on an asphalt cushion over a concrete sub-floor. This is slightly resilient and easy on the feet. To facilitate sliding of operator's chairs a 12-gauge steel plate 24 in. by 36 in. is in front of every Linotype.

Production Flow

News copy comes to the copy desk near the center of the composing room where it is

(*Continued on Page 28*)



Views in three major mechanical departments, Ottawa (Ill.) Daily Republican-Times.

Top view shows section of composing room. Overhead material trays are used on makeup tables. A few trucks are employed for large-ad composition. Glass block furnishes natural light except on cloudy days.

Center: Airy, well lighted stereotype department a pleasant place to work. Hoods exhaust all fumes from pots. Note hoist for charging remelting furnace at left. Copper coils surrounding stereotype pot supplies hot water to storage tank when plant heater is not in use.

Lower Picture: View of 24-page Duplex Tubular Press driven by Cline motor and control equipment. Press will deliver 30,000 papers per hour. In addition to beneficial air conditioning, a large suction fan withdraws fumes and heat from the nearby metal furnaces.

Paper Problems

By Letter P. Offgrav*

Paper Technical Information

We should know something of the "pedigree" of the paper—that is whether it is sulphite (No. 1, 2, or 4) sulphate, or rag, and if rag, the per cent—the kind of sizing, starch rosin or glue. Whether tub sized or surface sized—the physical characteristics claimed for it—sizes, weights and colors and/or finishes available in mill stock. *And particularly, if requiring special treatment or susceptible of particular results—the* modus operandi. *If available only as "making orders"—the minimum tonnage required—and* machine fill.

APPARENTLY the above refers to swatches of mill samples as sometimes sent out in booklet form. Undoubtedly, the executive making the statements above wishes the information because he feels it will be of assistance in securing better printed results. However, there may be good reason for such samples carrying part of the information requested, but on the other hand the writer feels there are some details which are not essential to printing plant production. In a printing paper, for instance, there is no valid reason for the printer asking how much sulphite, sulphate, or soda pulp the paper contains. He is buying a printing paper—not so much sulphite or sulphate pulp. As to rag content, it is reasonable to ask how much rag, although that in itself does not indicate the value of the paper. There are several grades of rag pulps, so the exact amount does not tell the whole story. There is no apparent reason why the printer should know what sizing materials were used. This does not affect the use of the paper, and no difference in inks, etc., is entailed by different sizing materials. As to whether the paper is tub sized or surface sized, the fact is that the two are the same.

As a rule, the more progressive paper manufacturers give the information suggested in the other part of the question, with the possible exception of strength tests. Except in isolated instances, strength figures are of no particular use to the average printer, and when they are necessary, the paper manufacturer will as a rule furnish them.

The paper manufacturer is interested in seeing that the printer obtains maximum results from his products. It would seem that if there are any special treatments required to obtain the best printed results that the paper maker ought to pass on such information to the printer until such time as that knowledge becomes so well known that it is common knowledge.

**Another in a series in response to problems propounded by mechanical and production executives in a questionnaire sent out by* Printing Equipment Engineer. *Mr. Offgrav will reply to additional problems in future issues.*

Ludlow Radiant Medium Now Ready

Ludlow Radiant Medium, the newest member of the Ludlow Radiant family of typefaces, is announced by the Ludlow Typograph Co. This series will be available in matrix form in sizes from 6 to 72-point.

The Ludlow Radiant family represents a new trend in typeface design. Monotone

New Radiant Medium face

sans-serif and monotone flat-serif faces have taken their place among the typefaces of permanent value, states the Ludlow Typograph Co. The lack of serifs and hairlines in the Radiant family together with the open design of the letters, make them especially well suited to photographic reproduction.

Radiant Medium is shown here in the 30-point size. Specimen sheets showing Radiant Medium and other members of the Ludlow Radiant family may be obtained on request from the Ludlow Typograph Company.

P-Double-E File No. 1G5.

Announces 96 pt. Bodoni Campanile

The size range of Ludlow Bodoni Campanile has been increased to include 96 point capitals, points and figures. These matrices are set and cast in the regular manner.

BOD5

This new Ludlow face, a slender yet bold version of Bodoni, is designed for commercial printing and advertising. Engraved matrices for price figure casting lengthwise of the slug in 120 and 144-point sizes are also available.

Specimen sheets showing lines in caps, the full alphabet in the 96 point size, and the price figures in 120 and 144-point size, and a colorful folder showing Bodoni Campanile in practical use may be obtained on request from the Ludlow Typograph Company.

P-Double-E File No. 1G5.

Wright Appointment

Vice President G. S. Crane, of Cutler-Hammer, Inc., announces the appointment of F. A. Wright as Manager of Resale Sales with location at the company's headquarters in Milwaukee. In his new capacity Mr. Wright will occupy the position formerly held by B. M. Horter who was recently appointed General Sales Manager.

Champion Plants No *China* Eggs

REMEMBER what a disappointed kid you were when some of the eggs you found turned out to be glass? They may have fooled the hens, but they were no good to you.

It's different with Champion Papers. Every grade is good, every one is usable. Not a phoney in the whole lot . . . nothing put in just to dress up the line. When Champion makes a paper it is for one reason only—it fills a real need in a big way.

Champion presents the most complete list of printing papers anywhere available. They range from finest enamels and uncoated book papers to cardboards, tags, bonds, ledgers, and envelopes and tablet writings. Whatever your printing requirements, use Champion Papers and let them contribute some real nourishment to your customers' business.

THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . Over 1,500,000 Pounds a Day

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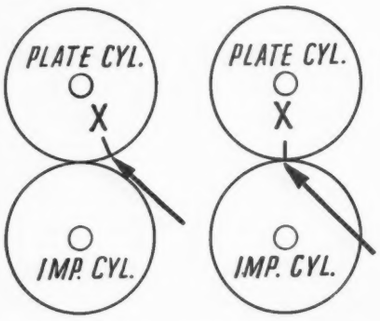
Equipment-Supplies

Champlain Printing and Fabricating Rotary Letterpress

Chambon Corporation has announced the Champlain Type 3G Rotary Letterpress. It is a moderately-sized high-speed press for producing a wide range of work in black and color in the medium-size form class. This work includes paper bags, box wraps, container blanks, match boxes, etc. The press prints from the roll. Rewinding, sheeting and punching may be done in one operation through the press.



Diagrammatical sketch and halftone illustrate principle of running register adjustment and means for making the adjustment on Champlain Letterpress Rotary Press.

Referring to the diagram, at left is shown the plate and impression cylinder. X indicates the register mark on the plate cylinder. The plate is out of register.

At right, the plate cylinder at X has been rotated slightly by means of the longitudinal register so that the plate cylinder mark coincides with a mark printed by the first unit. The first unit is also equipped with running register to take care of registration.

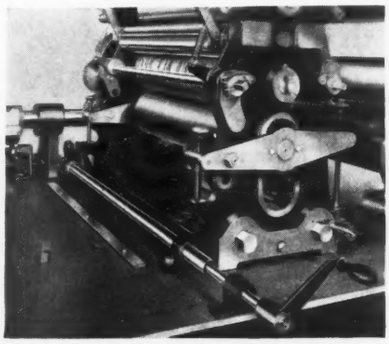
As is shown in the diagram, one or more printing and fabricating units are mounted in line on a pedestal or bed, according to the need for the particular work being executed. Chambon Corporation states the component parts of the press are light enough to be handled by one or two men without the aid of hoisting equipment. The press can be changed over from one job to another in a few hours.

Maximum web width is 17 in.-20 in.; maximum printing width, 16½ in. or 19½ in.; minimum cylinder circumference is 15½ in.; maximum cylinder circumference is 26 in.; rewinding, 350 ft. per min.; sheeting, 200 sheets per min.; punching strokes per min., 125.

This press prints from cylindrical bronze plates made by Chambon's engraving department, or it will print from stereotypes, curved electrotypes and rubber plates.

Fabricating units available for use with the press are: Slit scoring unit as used in the match industry; heavy duty guillotine cutter; heavy duty rotary cutter used in the production of fibre containers; stationary punch; running reciprocal punch placed at the delivery and eccentric punch for small-length work. A thermoplastic adhesive unit can be furnished for applying localized spots of adhesive.

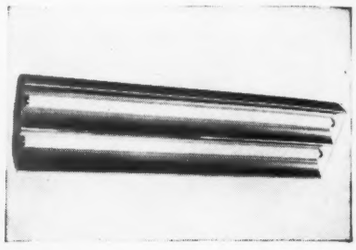
Some features of the press are as follows: Running register adjustment for controlling longitudinal register of engravings while the press is in operation. Specially designed ink fountains eliminate necessity for continual adjustment. Makeready is practically eliminated. A web control unit is provided for maintaining constant web tension between the printing units. An impression adjustment control permits regulating the pressure of the design or engraving cylinder against the paper web.



The halftone detail view shows running register adjustment for controlling longitudinal register of engravings while the press is in operation.

Fluorescent Luminaires for Industrial Lighting

Designed for general or supplementary industrial lighting applications where an efficient, low brightness, extended source is required, a fluorescent lighting unit has been developed

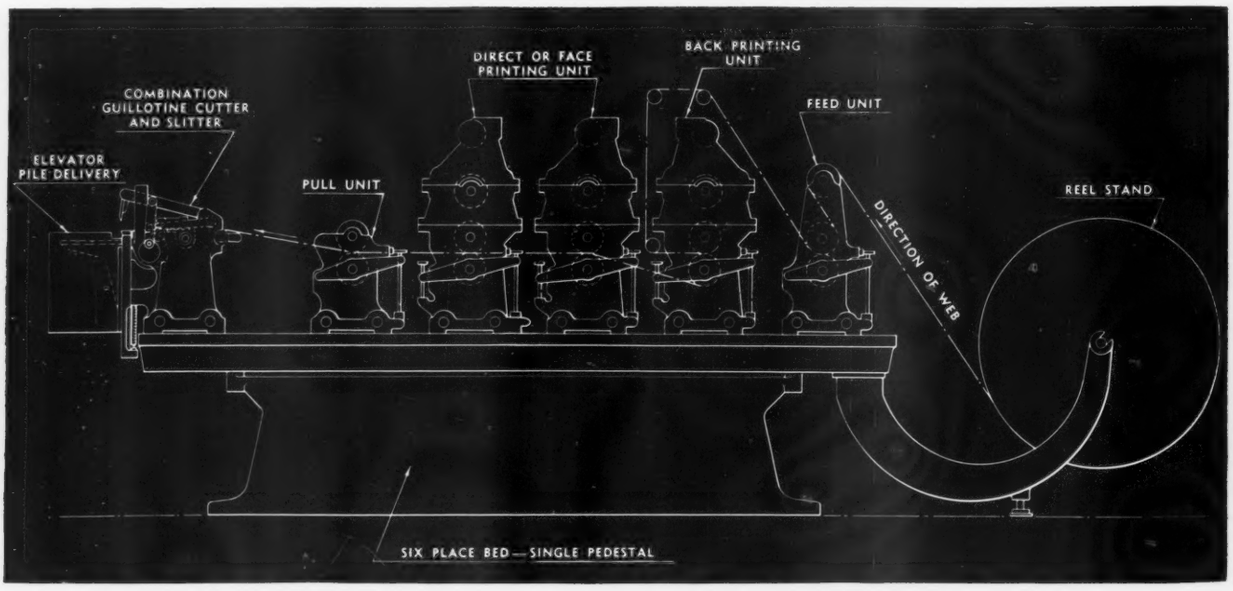


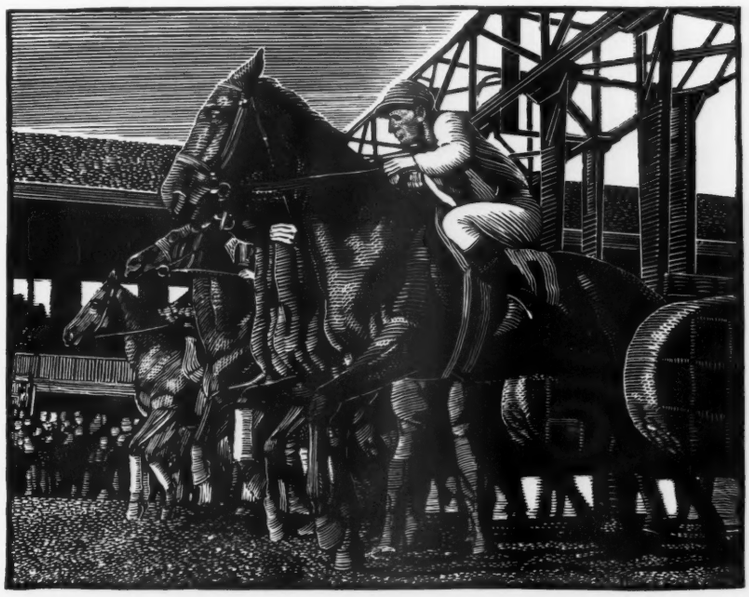
Westinghouse concentrating type, two-lamp fluorescent luminaire.

by Westinghouse Electric and Manufacturing Company. Ammounced are both single and two-lamp units, for either 110-120 or 220-240 v. supply. Since the fluorescent lamp has a high efficiency, heat radiation from an installation

(*Continued on Page 22*)

Side elevation diagram of Chambon Champlain Type 3G Rotary six-place bed Letterpress. Mounted on the bed or pedestal are first impression printing unit and one each black and color second impression printing units. Feed and pull units are indicated. Sheeting or cutter unit with slitter is shown at left with elevator pile delivery. This press may be equipped with various units either printing or fabricating according to the work to be done.





You can't pick a winner
by appearance alone—

RESULTS at the finish tell the story! Lined up at the barrier, all fine horses look more or less alike, but the winner of the race gives his exceptional performance as a result of fine breeding, development and extensive training.

Rollers too look alike, but tests have proved IDEAL ROLLERS possess the character and stamina to lead the field in high speed and quality. IDEAL ROLLERS are the result of carefully compounded materials and exacting field tests before they are offered to you.

Listed below are the many different types of IDEAL ROLLERS available, each one particularly designed to do a specific type of work efficiently:

DX Newspaper Rollers
Ideal (Vulcanized Oil) Lithographic Rollers
Ideal Lithographic Dampening Rollers (three efficient types)
Ideal (Vulcanized Oil) Distributor Letterpress Rollers
Bulldog Lithographic Rollers
Ideal Photoengravers' and Litho Proof Rollers
Ideal Process Coated Rollers
Graphic Non-Meltable Rollers
Coating and Varnishing Rollers
Rubber Letterpress Rollers (Oil-Resisting)
DX Letterpress Rollers
Fabric-Covered Rollers
Impression Rollers (all types)
Rubber Blanket Rollers
Rubber Waxing Machine Rollers
Rubber Tanning Machine Rollers
Rubber Gluing Rollers
Rubber Friction Rollers (all types)
Pull and Draw Rollers

Other fine Ideal products guaranteed to render exceptional service:

Cutting Rubbers
Ideal Process Resurfacing Machines (four models; single- and double-roller coating)
Ideal Automatic Sectioning Machines (for split-fountain work)
Vanitex Lithographic Blankets
Gelatine Compositions
Negative Holders
Special Rubber Molded Items
Rubber Plate Gum

One of our efficient sales and service representatives will be pleased to cooperate in determining the correct rollers to meet your individual plant requirements.

IDEAL ROLLER & MANUFACTURING CO.
CHICAGO, ILLINOIS • LONG ISLAND CITY, NEW YORK

Equipment

(*Continued from Page 20*)

is consderably lower than for an incandescent installation producing equal foot-candles.

A steel housing completely encloses reflectors, sockets and controls. The reflectors, finished by the Alzak process for easy cleaning, are drawn from No. 18 B&S gauge alunimum sheet. The reflecting surface has a specular finish for the concentrating type two-lamp unit and a diffuse finish for the spready type single-lamp units. All housings are finished outside with silver gray hammerloid surfacing, and inside with baked white synthetic enamel.

All housings, except on the 24 in. units, are provided with two-point suspension for attaching to ½ or ¾ in. conduit. Hooks for chain suspension, safe-change hangers, or adjustable swivels for ½ in. conduit are available as accessories. Swivels are used where it is necessary to tilt fixtures. Knockouts are provided in both ends of each luminaire for end-to-end connections to form a continuous light strip.

Additional information may be obtained from the Lighting Division, Westinghouse Electric and Manufacturing Company.

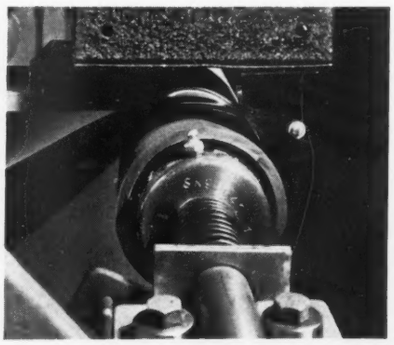
Register Cuts Waste in Litho Color Press

Claimed to reduce waste by 75%, a Westinghouse "electric eye" electronic device has been installed on the two-color lithographing press of the Redson-Rice Corporation, manufacturers of lithographed envelopes and letterheads, Chicago. The device automatically corrects an off-register of 1/32 in. on a two-color machine while approximately half the length of a standard letterhead passes through the press.

With the paper traveling at a speed of 5.4 ft. per sec., this correction is made roughly in 1/10 sec. If the off-register is less than 1/32 in., the correction is made in a correspondingly shorter time.

Before the device was installed, an average waste of 100 sheets of paper was incurred before perfect color register was obtained. With the electronic regulator, this waste has been cut to 25 sheets.

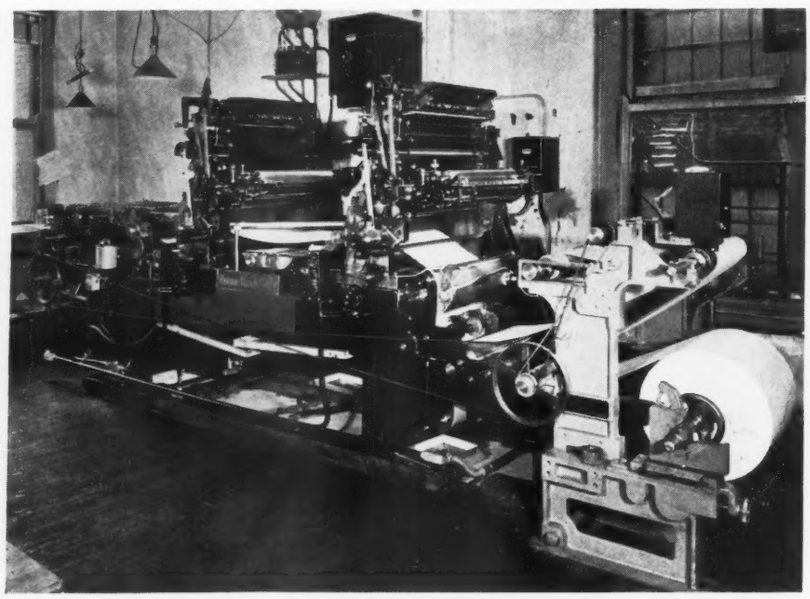
This regulator consists of a single light source projected through four equally spaced lenses on the periphery of a synchronous motor-driven revolving disk about 3 in. diam. The circle of light that results is placed above the sheet of paper so that exactly half the area of light falls on the light colored paper and exactly half on the black roll.



Here's close-up view of Westinghouse Electronic register device for keeping the printed images on a two-color web in perfect register. A light is projected through four equally spaced lenses on the periphery of a synchronous motor-driven disk about 3 in. diam., and the circle of light that results is half on the white paper and half on the black roll. The slightest mechanical disturbance of this ratio of black to white sets up a voltage differential, which drives a motor to shift the roll back to proper register position.

As long as the light areas on the paper and roll are exactly even, there is no register correction. However, as soon as the black or white area varies, a voltage differential is set up instantly, which drives a motor to shift the roll to correct the off-register. On 60-cycle current, 120 impulses per second tend to correct the off-register.

Use of a single light source has been a definite improvement over the double light source system used in earlier models.



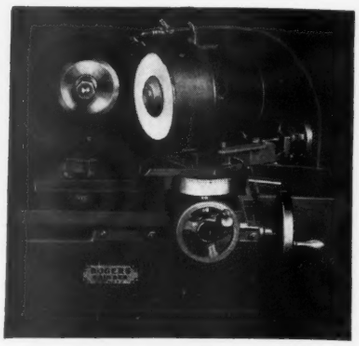
Offset-litho press in plant of Redson-Rice Corporation, Chicago. The black box mounted above the roll of this litho press contains the light source of a Westinghouse electronic register which detects the slightest off-register of the paper in a two-color job. The electronic controls of the device are mounted in the opened cabinet on the wall.

Circular Knife Grinder

The Rogers Circular Knife Grinder is designed for sharpening splitting, circular, double-bevel slitter, circle and ring shear and bottom slitter knives. The sharpener is made in three knife-grinding capacities: From 1 in. to 8 in. diam.; from 2 in. to 14 in. diam., and from 2 in. to 20 in. diam.

Any type of circular knife, single or double bevel, within the diameter range can be trued and sharpened.

The grinding wheel on all three models is 6 in. diam. by ½ in. thick. The knife and grinding wheel are driven by separate motors, the knife with V-belt in opposite direction to the grinding wheel. The knife is mounted on an adjustable arbor. The grinding wheel is mounted directly on the arbor of the ball-bearing motor which is provided with means for eliminating end thrust. The swivel is graduated to insure correct bevel angle setting. Adjustable steel gibs can be used to take up wear.



Rogers Circular Knife Grinder

Operation of the machine is as follows: (1) The circular knife to be sharpened is placed on the spindle; the motor switch is turned on and the knife revolves. (2) The grinding wheel is moved to the correct grinding angle. (3) The hand wheel is turned to feed the revolving dull knife to the revolving grinding wheel at proper rate to sharpen the cutting edge of the circular knife.

Control switches are mounted on machine base for the two motors.

Standard motors are for lighting current connection. Machine is furnished for motor drive only.

Further information may be obtained from Samuel C. Rogers & Company direct or in care of *Printing* Equipment *Engineer*.

P-Double-E File No. 4F8.

Rubber or Metal Plates May be Used on New Press

An Arc-Type Web Press that will print from one to six colors with rotary register while the press is running is announced by Paper Converting Machine Co. The speed of this press depends on the size of the cylinder, kind of ink used, type of printing, and the paper stock, with a range of speed from 300 ft. to 800 ft. per min. It is designed to use rubber plates, rubber with metal backing, or metal plates. In the illustration is shown the press arranged to use rubber plates with elastotype back to affix the plates on the printing cylinder. This press will take from 15 in. to 24 in. circumference in one series and from 24 in. to 40 in. circumference cylinders in the second series, the printing cylinders being set in the main frame with the tympan.

One of the features of this press is that no oil or grease can drop on the web while entering or leaving the press, as the web is carried in position out of the way. Ink

(*Continued on Page 50*)

Coming Closer

Letterpress Equipment

possessing new factors of high efficiency aimed directly at the heart of the printers' sales problem.

. . . designed and made by the world's largest exclusive manufacturer of cylinder presses.

. . . . to enable printers to give a maximum of quality and service at an attractive but profitable price which, all Utopian dreams aside, is the most potent business builder known.

WATCH SEPTEMBER TRADE PAPERS

How Presses Like This One HELP YOU SELL

NEW—This Kluge Automatic press, with its modern high speed and wide adaptability—and modern electric drive and control
Type R motor provides ample starting and running torque
Convenient control within easy reach of the operator

We'll want the job Thursday, sure
Thursday? O.K. What's your address?
AN ORDER RECEIVED BECAUSE NEW EQUIPMENT HAS SPEED AND FLEXIBILITY

ARE some of your presses "oatburners"—eating up overhead but out of competitive stride?

Improvements in press machinery have made available to the printer increased facilities for speed of printing, quality of printing, and adaptability to a wider range of jobs.

For Example

Take, as one example, the new Kluge Automatic. It offers many advantages to help put a printer in a better competitive position on a wide variety of jobs. The new model is amazingly versatile on run-of-the-hook work. Increased rigidity of frame, and strength of impression, lessen make-ready time. Ink distribution is comparable to that of a cylinder press. On the feeder, you make any adjustment at just one location. Top effective printing speed? Up to 3000 impressions per hour. Some press!

Let's Look "Under the Hood"

A vital part of the Kluge Automatic and other presses is the drive and control system. On this and other well-known makes of press machinery you will find G-E motors and control. The G-E Type R motor, for example, provides ample starting and running torque (plenty of "oomph"). You don't have to push the flywheel to start the press. G-E control is so applied that twelve different printing speeds are at the disposal of the operator. Drive and control are electrically engineered to the specific requirements.

Replace Profit-cutting Equipment

Investigate today the greater speed, accuracy, and flexibility of modern presses. Consider, too, the operating and service advantages you get when you specify General Electric drive and control. General Electric, Schenectady, N. Y.

YOU GET ALL THESE ADVANTAGES WHEN YOU SPECIFY G-E

1. A COMPLETE LINE OF ELECTRIC EQUIPMENT—Meets every printing need.

2. A STAFF OF G-E PRINTING EQUIPMENT SPECIALISTS—To help you plan your electrical installation.

3. SEVENTY-SEVEN SALES OFFICES, SERVICE SHOPS, AND 28 G-E WAREHOUSES—Conveniently located to give prompt, expert service.

4. G-E UNDIVIDED RESPONSIBILITY—For the proper co-ordination and successful operation of the entire electrical installation.

GENERAL ELECTRIC

011-457

Six-State Conference

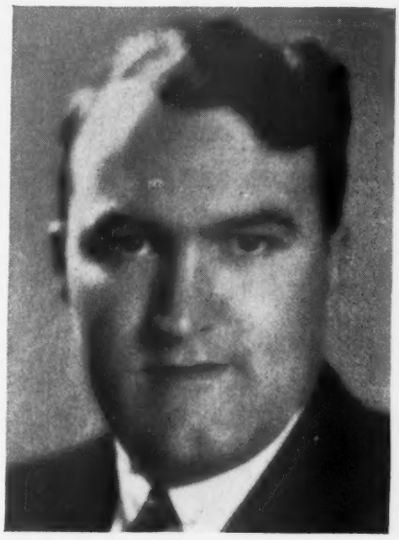
Of newspaper mechanical executives to hold joint meeting with existing New England Composing Room Association

SIX states in the New England area will have a newspaper mechanical conference, if present plans among newspaper mechanical executives are carried through. The states to be represented in the proposed New England Mechanical Conference are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

For some time, newspaper composing room executives have been meeting regularly. This group is known as the New England Daily Newspaper Composing Room Executives' Association.

It is proposed that the composing room executives and the tentative New England Mechanical Conference hold a joint one-day meeting, with The Day Publishing Company as host, in New London, Conn., on Sunday, October 8. The meeting will take place at the Mohegan Hotel.

Directors of the New England Mechanical Conference are· Chairman, Francis Britton, Production Manager, Nashua *Telegraph;* John Laing, Composing Room Superintendent of the Manchester, (N.H.) *Union-Leader* and President of the New England Composing Room Executives' Association; William Govier, Production Manager, Boston *Herald Traveler;* Bernard Garrity, Mechanical Superintendent, Hartford *Times;* Andrew Palmer, Mechanical Superintendent, Woonsocket *Call;* Joseph Mahoney, Mechanical Superintendent, Holyoke *Transcript;* Herbert Stanger, Production Manager, *Christian Science Monitor;* Henry Jones, Composing Room Superintendent, Portland *Press Herald Express;* Glenn Magoon, Mechanical Superintendent, Fitchburg *Sentinel;* Richard Fitzgerald, Mechanical Superintendent, Worcester *Telegram Gazette;* Harry Zerbe, Pressroom Foreman, Lawrence *Eagle Tribune;* George Kent, Pressroom Foreman and Walter Creighton, Composing Room Foreman, New London *Day;* Sherman Bowles, Publisher, Springfield *Republican Union*, and the



Francis M. Britton, Production Manager of the Nashua (N.H.) Telegraph, *Chairman of the Board of Directors, New England Mechanical Conference.*

News; C. A. Staley, Engraving Foreman, New Haven *Register;* Chester M. Sposner, Mechanical Superintendent, Pawtucket *Times*.

A joint committee meeting of representatives of the composing room association and conference groups was held in Boston on Monday evening, July 31. Those attending this meeting were Francis Britton, Production Manager, Nashua *Telegraph;* Composing Room Superintendent Karl G. Engel, Pawtucket *Times;* Production Manager Herbert T. Stanger, *Christian Science Monitor;* Mechanical Superintendent Bernard F. Garrity, Hartford *Times;* Composing Machinist Harold Kerwin, Pawtucket *Times;* Carleton A. Braga, Assistant Production Manager, Woonsocket *Call;* Herbert F. Haake, Assistant Composing Room Foreman, *Christian Science Monitor;* Composing Room Foreman Walter C. Creighton, New London *Day;* Andrew P. Palmer, Mechanical Superintendent, Woonsocket *Call*.

Francis Britton acted as chairman of the organization committee. Herbert T. Stanger, assisted by Herbert Haake, who has been serving as secretary of the composing room group, will formulate a program for the October joint meeting. Andrew P. Palmer is publicity director.

Following the joint convention in October, there will be a meeting for the election of officers to serve the new mechanical conference during the coming year.

The tentative program is as follows:

Saturday, October 7—Registration.

Sunday morning, October 8:

Sunday morning plant inspection.

General gathering to be broken up into four clinic meetings: Composing, Stereotype, Pressroom and Photo-engraving.

(In these separate meetings a chairman will preside. He will be assisted by a "zip" man. The chairmen will be selected from among members of the two groups. The "zip" men, it is explained, will have the answers to the problems propounded. Each "zip" man will be carefully selected from outstanding authorities in the field represented by each clinic.

Sunday Afternoon—October 8:

Dinner with Welcome extended by Orvin G. Andrews of the New London *Day*. The program committee will secure the services of one of the country's foremost "streamlined" experts who will answer current problems with respect to newspaper layout.

Dryer Signal Device for Saving Electricity

By RALPH P. HAAN*

Some time ago, after installing a Speed Scorcher (or mat dryer) in our Stereotype Department, it was found that the men in the department neglected to turn off the current for the heating elements at times when it was not necessary that the scorcher be kept hot. Naturally, this wasted considerable electricity.

In order to provide a means for warning the stereotyper when current is off or on the scorcher, it was decided to install a signal device above the machine. The device consists of two 10 w. neon lamp bulbs, wired in series on the heater element line. We use 220 volt a.c. current. The bulbs are used with 240 volt circuit, hence the necessity for wiring in series. The bulbs, however, may be obtained for use with 220-240 v. circuits. If the bulbs should burn out, the scorcher can still be used.

**Mechanical Superintendent, Flint (Mich.)* News-Advertiser.

Mechanical Superintendent Ralph P. Haan of Flint (Mich.) News-Advertiser, *installed Neon signal lamps (above his hand) to show stereotyper whether current is off or on the Speed Scorcher. Result: Considerable saving in electricity. If the lamps are illuminated when the scorcher is not in use, all of the men in the stereotype department know that the current should be turned off.*

THIRD S.N.P.A. MECHANICAL CONFERENCE (Eastern Division) IN CHATTANOOGA, SEPT. 11-12

IT IS expected that between 250 and 300 delegates from the mechanical departments of various newspapers in the Eastern Division of the Southern Newspaper Publishers' association will meet at Hotel Patton, Chattanooga, on September 11 and 12 for the third annual conference of mechanical department representatives, it has been announced by Walter C. Johnson, secretary-manager of the SNPA.

The Eastern Division includes all newspapers east of the Mississippi River and south of West Virginia.

The headquarters office of the SNPA is located in Chattanooga and through a happy co-incidence, its president, Adolph Shelby Ochs, is a resident of Chattanooga, he having been elected after the city was selected for the third annual conference. The first meeting of the mechanical conference was held in Birmingham and the second in Atlanta.

I. J. Gardner, Production Manager of the Chattanooga *Times*, is chairman of the committee in charge of the program and will preside at all general sessions of the conference. Other members of the committee include W. A. Carns, of the Birmingham *News* and *Age-Herald;* W. B. Sandlin, of the Miami *Herald;* John P. White, of the Charlotte *Observer;* T. C. McLemore, of the Mobile *Press-Register;* Henry M. Duke, of the Charleston (S. C.) *News and Courier* and *Post;* Fred Connell, of the Atlanta *Journal*, and R. R. Fulton, of the Roanoke *Times* and *World-News*.

Only technical problems involving the mechanical departments of a newspaper will be discussed. There will also be divisional meetings at which problems affecting particular departments, such as the composing, press, stereotype and photo-engraving departments, will be discussed. These will be conducted by men in the particular craft.

The delegates are invited to bring their wives, and a program of entertainment, including sight-seeing trips, is planned. The entertainment committee has not yet been named by Chairman Gardner.

A part of the program will include a tour through the mechanical departments of Chattanooga newspaper plants.

Henderson Passes On

Printing plant mechanical executives and machinists who knew him well, were shocked to hear of the passing of William T. Henderson, chief machinist of the Washington (D.C.) *Evening Star*.

Mr. Henderson passed away at his home at Randolph Terrace, 3900 Fourteenth St. N.W., on Thursday, August 3. He was 41 years of age.

Besides being known for his ability as a composing machine expert, he was the inventor of useful composing room devices. Among these are a Ludlow matrix stick which permits composing and casting slugs from matrices of variable point size in the same line, an ad alley saw, and several devices for use on composing machines.

Mr. Henderson's last contribution to the editorial pages of *Printing* EQUIPMENT *Engineer* was published in January. The illustrated article described the means for producing and casting solid slugs on line-casting machines. This article was reprinted in three trade magazines subsequent to its appearance in *Printing* EQUIPMENT *Engineer*.

He was an ardent golfer, member of Columbia Typographical Union No. 101 and a life member of LaFayette Masonic Lodge.

Professional Kodachrome Photography

A 32-page booklet bound in colored cover with color insert printed from Kodachrome direct halftone separation negatives has been published by Eastman Kodak Company. The book describes Kodachrome film and presents general information relative to color photography. The booklet may be obtained from any Eastman store at 25c per copy.

Newspaper Printing Supplies

American Publishers Supply has issued Catalog No. 7. Illustrated and described are equipment and supplies items for all departments of the newspaper plant.

New Intertype Representative

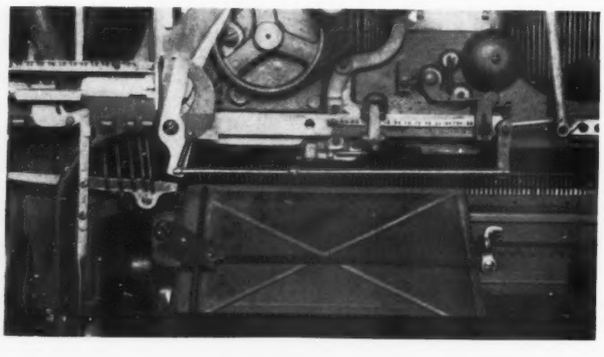
Intertype Corporation announces the addition of Ben H. Black to its staff of West Coast representatives. Mr. Black is a San Franciscan by birth and though he is only thirty years old he has worked at the trade in almost every state in the Union. His territory is in California and embraces the counties of San Luis Obispo, Monterey, San Benito, Fresno, Kings, Tulare, Santa Cruz, San Mateo, Santa Clara and Madera. Mr. Black's headquarters is at Intertype's San Francisco branch.

A Short Line Automatic Stop

By HARRY G. POTTLE

ONE of the tragic things that can happen to a line-composing machine operated by a Teletypesetter unit is the failure of a certain matrix to drop. For instance, if one of the more frequently used letters, such as a lower case "e" or "t," fails to drop, due to a bent or damaged matrix lug or various other reasons, the tape may as well be run over.

To design an automatic device that will call to the attention of the attendant that a certain matrix fails to drop is quite a tough assignment. This problem puzzled me until I thought of stopping the ascent of the assembling elevator in case of a short line.



The accompanying illustration shows a hook, mounted on a Linotype assembler. The projection extends over the top of the assembling elevator gate and prevents the elevator being raised until the matrix line is filled. This hook works on a fulcrum screw, which is screwed into the head of the regular assembler cover screw. A 3/16 in. rod is fastened to the lower end of the hook. On this rod there is a small adjustable collar, which may be set for the various measures.

A length of tubing, which is fastened to the right-hand end of the assembler slide, fits over the rod and as the assembler slide is moved to the left the left end of the tubing bears against the collar on the rod. As assemblage of the line nears completion and "opens up the hook" (moves it to the right) to allow the assembling elevator to be raised, a small coil spring returns the hook to its normal position when the assembler slide returns to its normal position.

When setting 12-em matter, for instance, the collar is set about 1½ picas less than 12 ems. This device may not be 100 per cent efficient, but if a matrix or a spaceband is not dropping, it will stop the machine within two or three lines, if not on the first line, and, of course, it will definitely stop all short lines less than 10½ picas in length.

Should the spacebands fail to be released or should they clog in the spaceband box chute, or should the matrices clog in the assembler chute, this device will stop the machine before half the matrices have been emptied from the magazine into the assembler entrance.

In my opinion, this short-line automatic stop is just as essential as the tight-line automatic stop on this particular equipment.

SEE ATF's huge exhibit at the Show!

ONE ★ among a dozen stars...in the largest single space at the Show! ATF is spot-lighting the Kelly Clipper because of its success and its revolutionary features. But ATF's 6000 square feet of display space will be jammed with revolutionary features... in letterpress and offset equipment and accessories, rubber plate printing and supplies. Some will be on display and demonstrated for the first time anywhere. Others, you've heard about, but never seen. See them all, watch them in operation and analyze them in terms of your own needs. The ATF exhibit will be the largest at the Show... it will contain a greater variety of equipment than any other. Don't miss it! ★Your ATF Salesman has tickets, ask him!

American Type Founders

200 Elmora Avenue • Elizabeth, New Jersey

Branches and Selling Agents in 24 Principal Cities

GRAPHIC ARTS EXPOSITION
EXHIBITOR
NEW YORK SEPT 25 TO OCT 7 1939
BOTH INCLUSIVE

Moving Composing Machines *from second floor composing room of old building to new building of the Ottawa (Ill.)* Daily Republican-Times *was accomplished by the movers with the aid of this wooden tower platform. Each machine was mounted on and bolted down to wooden skids and rolled onto the tower platform, the top of which was made level with the second-story floor. A hoist then lifted the machine slightly and the tower was rolled to one side. The truck was backed underneath the suspended machine. The machine was then lowered to the truck and carted to its new location.*

Republican

Times

(Continued from Page 17)

sorted and distributed to the Linotypes. The finished slugs come back to the news dump alongside the copy desk, where, at the same time, the operator obtains fresh copy. From the dump the slugs go to the proof press, are placed on the correction table and after revise are ready for page makeup.

Advertising copy comes to the ad foreman's desk, where sizes of type and measures of lines are marked on the copy which then goes to the composing machines. The type comes back to the ad dump from which the compositors take it to the ad cabinets where the necessary rules, borders, cuts, and large type needed to complete the ad are assembled with it. The finished ad passes through the proof press and is then placed on the correction bank.

Large ads are assembled directly in a chase on a movable truck. When the ad has been completed the truck is wheeled into the page makeup line and news type and small ads are added to complete the page. Eight of these form trucks are included in the 32 pages of makeup space available. That portion of makeup not done on these trucks is done on makeup tables, above which are trays on brackets in which are arranged all the rules, leads, slugs, dashes and "sorts" needed to space out and complete the page. The makeup tables are grouped in the part of the room to bring the finished pages closest to the stereotype department.

Machine Details

In the composing room, eight Linotypes, a Ludlow and a Monotype material maker, ATF steel equipment, Hammond glider-saws, and Angle Steel stools and furniture may be seen with other modern equipment. Composing machine metal pots are fed by Margach feeders.

All wiring is carried in the floor and comes up to the machine near the column. Wiring is carried through the machine in flexible conduit and through the spaceband transfer channels in copper tubing to the operator's lamp. Only four inches of exposed wiring around the machine.

All machines are directly vented into an exhaust line which removes 2000 cu. ft. of air per min. from the composing room. Even odors from the material maker do not escape into the room.

Mold cooling on the Linotypes is done with soft water to prevent scale. A pressure regulator holds pressure down to 20 lbs. in the circulating system which has an elevated discharge to keep the system loaded at all times. There are two valves at each machine, the one on the discharge side being used to restrict the flow to the exact amount needed for cooling. Once set, this is never touched except when repairs require closing it.

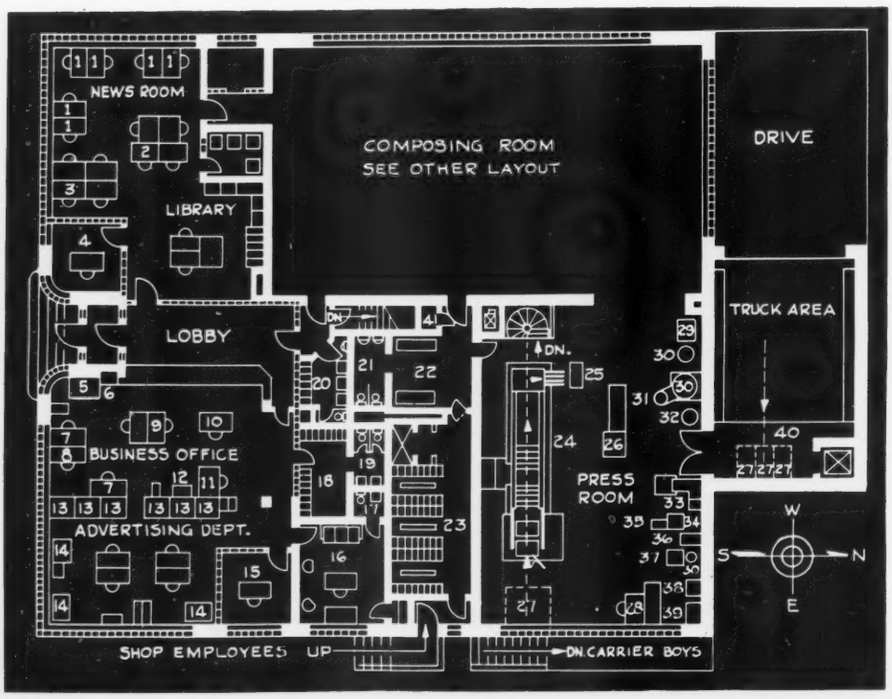
Hamilton iron tables with overhead banks for makeup are used. Only four turtles are used for regular pages. Most large ad composition is done on turtles. Sloping top ad cabinets with overhead lead and slug racks for small ad work are provided.

The news dump, correction bank and copy desk were built by the Angle Steel Stool Company in accordance with designs worked out by *Republican-Times* executives and the manufacturer's engineers. The work tops are 40 in. high, which is considered to be the ideal height for this kind of equipment.

Stereotype Department

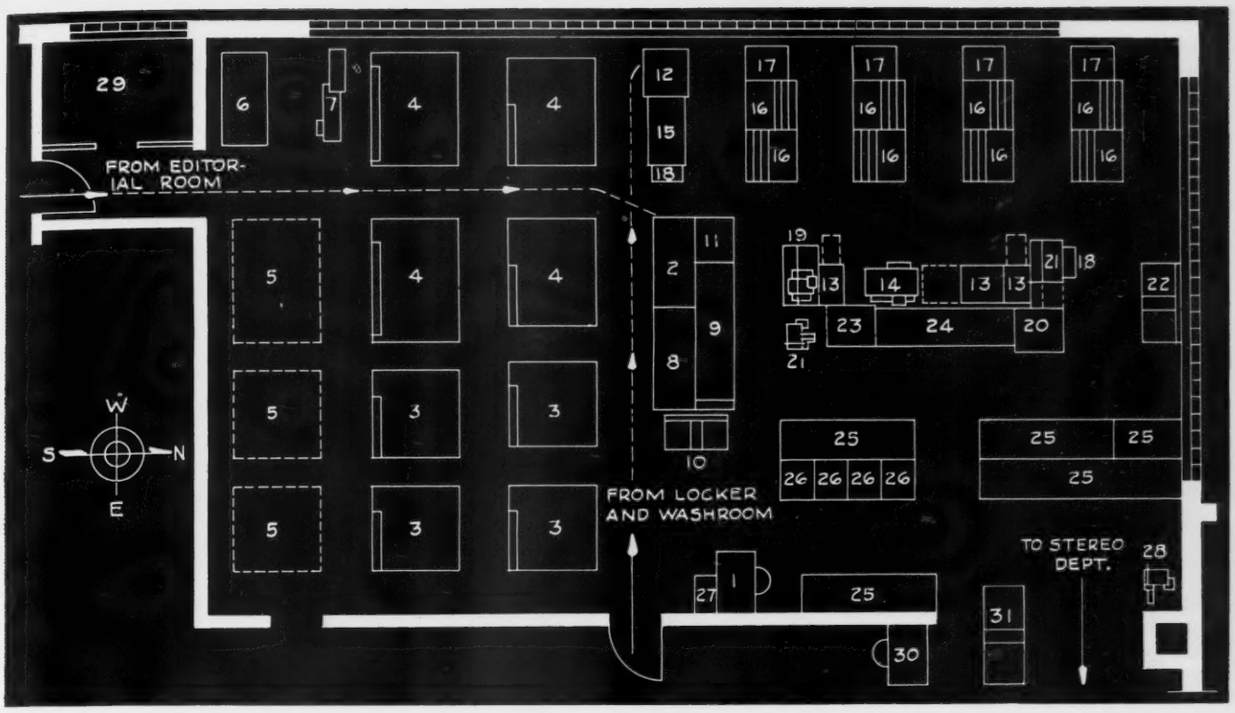
The stereotype room is located in an opening between the composing room and pressroom. In its regular newspaper plate equipment are included a Duplex router for routing curved plates, Duplex flat casting equipment with Richards router, Monomelt Plane-O-Plate and American Publishers Supply Form-O-Scorch are used for duplicating press service pictures, advertising cuts and complete ads. A Walker-Turner metal-cutting band saw is used to trim stereotype shell casts. Wood dry mats are used.

Note in the floor plan diagram the compact



Main Floor Plan *in new building of Ottawa (Ill.)* Republican-Times. *Business, editorial and advertising departments are adjacent to the mechanical departments. The process of manufacturing a newspaper is made as easy as possible.*

1—Reporters
2—News Desk
3—Society Desk
4—Managing Editor
5—Safe
6—Cash Register
7—Bookkeeper
8—Auditor
9—Cashier
10—Classified Ads
11—Circulation
12—Addresses
13—Mat Cabinets
14—Easel
15—National Advertising Manager
16—Publisher's Office
17—Toilet
18—Ladies' Locker Room
19—Ladies' Toilet
20—Men's Toilet
21—Shop Toilet
22—Shop Wash Room
23—Shop Locker Room
24—Press
25—Conveyor to Basement
26—Knife
27—Trap Doors
28—Foreman
29—Makeup Saw
30—Metal Pot
31—Caster
32—Curved Scorcher
33—Finishing Machine
34—Bench
35—Chipping Block
36—Flat Sborch
37—Flat Caster
38—Saw
39—Plane-O-Plate Maceline
40—Loading Platform
41—Janitor



Composing Room Layout *for Ottawa (Ill.)* Daily Republican-Times

Superintendent Leon V. Gonigam states that after two months use, he and his associates have found nothing of consequence in this layout that they wish would be different. The general work route through the different mechanical departments follows a crescent or C-shaped pattern from the advertising desk to paper delivery and mail dispatch rooms.

In this diagrammatic floor plan layout, the aisle spaces have been laid out in straight line and of ample width where traffic is heavy Examples: Note lane from editorial room through composing room to news copy desk at *2;* also, the lane from the locker and wash room to the ad foreman's desk at *12.*

The various pieces of equipment and supervising executives' desks are shown in the accompanying diagram. These are as follows:

1—Superintendent Gonigam's desk.
2—News Copy Desk.
3—News Linotype Machines.
4—Ad Linotype Machines.
5—Spaces for Future Machines.
6—Hamilton machinist's Work Bench.
7—Monotype Strip Material Caster.
8—News Dump Table.
9—Correcting Table.
10—Wesel Proof Press.
11—Cut Cabinet.
12—All-Steel Equipment Co.'s Ad Foreman's Desk.
13—Ludlow Matrix Cabinets.
14—Ludlow Caster.
15—Ad Machine Dump.
16—Hamilton Ad Assembly Cabinets.
17—Hamilton Ad (Page Size) Trucks.
18—Hamilton Strip Material (Base) Cabinets.
19—Rouse Vertical Rotary Mitreing Machine.
20—Richards Routing Machine.
21—Hammond Slug Saws.
22—Wesel Proof Press.
23—Makeup Foreman's Desk. 8 ft.
24—8 ft. Makeup Tables.
24—Makeup Tables.
25—4, 8 and 12-ft. Makeup Tables.
26—Individual Makeup Trucks.
27—Filing Cabinet.
28—Hammond Makeup Saw.
29—Proof Room.
30—Pressroom Foreman's Desk.
31—Goss Stereotype Mat Roller.

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streamlined route of plate making from Goss mat roller to trimmer to backing table, to scorcher, to casting box, to finishing machine to chipping block to press. No waste steps—all in a light, clean room at a temperature of 74 deg. All furnaces are hooded and exhaust lines carry away 1200 cubic feet of air per min.

Plate Cooling Device

The pressroom foreman has designed a plate cooling device, important in getting plates on the press quickly. The hot plate is lowered into a deep sink, upright in which is a pipe column with tiny perforations. A high pressure spray plays against the entire back of the plate—quickly and evenly cools it.

Remelting Furnace

A unique feature of the remelting equipment is an elevating scoop for loading the Surface Combustion Corporation remelting furnace. This scoop drops flat to the floor so metal trucks can be rolled in and dumped. As the scoop rises, two hinged legs drop, which become lugs to engage a channel iron flange on the pot, and pivot the scoop for easy dumping. A speedy chain hoist is used to elevate the scoop. Conco Engineering Company, Mendota, Ill. built the scoop and hoist.

After melting the metal is released through a gate in the furnace pot, a spout directs the metal into a set of United American double-eye water-cooled pig molds. When one set of four molds is filled, it is tipped over on a pivot which brings up another set of molds and at the same time dumps the last batch of pigs.

Unique Water Heater

Another arrangement initiated in the *Republican-Times* plant is a six-coil copper tubing water heater around the stereotype pot. A small circulating pump, controlled by an aqua-stat, delivers the heated water to a storage tank. This system supplies ample hot water during the season when the plant is not in operation and becomes a good booster heater in the winter time.

The Pressroom

The printing machine is a 24-page Duplex tubular press, permitting production of a 24-page paper in a single section. The press foundation is isolated on its own foundation entirely separate from the rest of the building to eliminate vibration. The drive is a 50 h. p. motor and the press delivers up to 30,000 folded papers per hr. An automatic conveyor picks up the papers as they come from the press, carries them to the basement and delivers them on a table for mailing or distribution to the carrier boy. The Cline press drive system provides push-button control for starting, inching, slow speed, acceleration, slowing down or stopping from any one of six convenient control stations on the press. A seventh button provides a "safe" stop, i.e., the press can only be started again from the station at which the safe stop was made.

Rapid's Mercury rollers and George H. Morrill Co's. inks are used on the press.

A 300-gallon ink tank beneath the press pipes ink to all fountains and a color fountain is also provided above the regular black fountain. Bowser ink system and tank is used. A Conco electric hoist, on the press, lifts the rolls into position for printing and another on trolley and beam of full press length, brings the roll from the basement and can be used for any heavy transportation above the press. In addition to air conditioning, a large suction fan removes fumes and heat from the metal furnaces in the pressroom.

In the garage and loading platform at the rear of the building is a trolley and hoist, used principally to lower rolls of print paper into the basement where it is placed on small Thomas steel trucks and stored until needed when it is replaced on the truck and hauled to a place directly under the end of the press. A trap door in the floor above is opened and a Conco steel yoke is placed on the roll which is hoisted into position on the end of the press by a Shaw-Box Budgit type half-ton hoist, running on a Richards-Wilcox trolley.

Technical Information and Literature

OFFERED GRATIS TO PRODUCTION AND MECHANICAL EXECUTIVES—SEND FOR IT

COMPOSING ROOM

1 ZINK CUT CEMENT—"Most economical cut fastening means in existence. New 30% faster setting time helps you get to press on time." E. A. Booth Co. will send information and prices.

2 LINOGRAPH "offers impressive values . . . more value per invested dollar. All facts are in the Linograph 50 catalog which is yours for the asking." Mail the coupon.

3 PROOF-PRESS — "Challenge Proof Press produce accurate, unyielding impressions that insure quality proofs."

4 SLIP-OFF INGOT—"Slips off the hook automatically when it reaches the part where the hook had to be taken off by hand." Write for details.

5 MONOMELT CO. "will send details on Sure-Grip Work Holder and Rapid Saw Swivel Gauge. These products eliminate fanning . . . permit fine micrometer adjustments." Use the coupon.

6 CATALOG—Linotype Parts Co. will send you catalog of "Star" Typesetting machine parts. Use the coupon.

7 LUDLOW Typograph Co. will send you type specimen sheets showing the new Ludlow Radiant Medium.

8 INTERTYPE "promotes efficiency and profits. It pays to modernize," states Intertype Corporation. Detailed information on the Model G will be sent you.

9 PROOF PRESS—"Make a good first impression with the No. 3 Vandercook." Detailed information will be sent without obligation to you.

10 MERGENTHALER LINOTYPE —Send the coupon for free booklet on this composing machine.

STEREOTYPE DEPT.

11 DRY MATS—"Burgess Chrome Mats give uniform shrinkage." Let the Burgess Cellulose Co. send you facts and information.

12 PACKING FELT—"Will not curl or crack, welds to the mat under heat, uniform in gauge, easy tearing," says American Publishers Supply, who also offer catalog.

13 DRY MATS—"For dependable stereotyping, rely on Certified Mats, made in the U. S. A." Further data.

14 INFORMATION on Stahi Corporations' Junior Former, Autoformer, and Master Former will be forwarded to you. Just circle this number on the coupon.

15 DRY MATS—"End guesswork with Wood Flong Dry Mats." Circle this number on the coupon to receive a sample lot.

16 DROSS SIFTER—"Cut dross loss from 20 to 50% . . . Fits standard dross drum, is easy to install and operate. Saves metal." Monomelt Co. will send you full details. Circle this number on the coupon.

17 NEW DRY MAT—Mention gauge, shrink, and type of casting equipment you are using when asking Flexideal Dry Mat Co. for samples of "Flex all-American" mat.

MISCELLANEOUS

18 ELECTRIC MOTORS—"Kimble Motors are built specially for printing equipment."

19 GENERAL ELECTRIC—"Offers a complete line of electric equipment—meets every printing need." Circle this number on the coupon to get further details.

20 ZINC—"Zomo Electric Zinc and A-Z Alloy are ideally suited to the fast pace which modern engraving demands."

21 BEARINGS—"Timken machinery is capable of measuring the thickness of a human hair in hundred-thousandths of an inch —such accuracy insures precision of Timken Bearings." Further facts will be sent.

22 PRINTERS can capitalize on National "Profit for Printers" campaign. Miehle Printing Press & Mfg. Co. will send full details.

23 ZINC — "Edes Triplemetal etches rapidly and cleanly, holds fine detail up to 150 screen. Hardness gives superior results for multiple matrix work."

PRESSROOM

24 ELECTRIC SHEET HEATER —"Prevents offsetting, removes static electricity, keeps air pure and reduces fire hazard." J. E. Doyle Co. offers interesting information.

25 INK—"Sinclair & Valentine Zephyr Blacks cost no more than ordinary inks . . . invaluable on rush jobs."

26 TYMPAN—"Save time, temper and money with Riegel's ready cut and scored topsheet of finest jute." State size and press—mail coupon for trial sheets.

27 ROLLERS—Sam'l Bingham's Son Mfg. Co. will send you information on its products.

28 "SEE ATF'S exhibit at the Show. 6000 ft. of display space will be jammed with revolutionary features. Your ATF salesman has tickets, ask him."

29 NUMBERING MACHINES— "Exclusive Wetter advantages permit highest speeds, avoid delays, reduce spoilage on all numbering jobs . . . save time in locking machines in place. For use on flat bed or rotary presses." Coupon brings complete catalog.

30 OFFSET PRESS—"Harris Press performance links your customers with your pressman in a manner that insures good will and future business."

31 ROLLERS—"Ideal Rollers are the result of carefully compounded materials and exacting field tests before they are offered to you." Fill out the coupon for further details.

32 PAPER — "Whatever your printing requirements, use Champion papers and let them contribute some real nourishment to your customers' business." Champion Paper & Fibre Co. will send information.

33 ROLLERS—"Vulcan Gelastic Rollers are soft, resilient and positively uniform in diameter . . . offer large savings in time and money." Details.

This coupon must be filled out completely in order to secure the literature or information you request.

Suggestion: **Paste coupon on penny postcard and mail.**

For Production and Mechanical Executives Only.

PRINTING EQUIPMENT ENGINEER **August**

1276 West Third St., Cleveland, Ohio.

Without obligation please have the manufacturers send me literature or information circled below. (These numbers correspond to numbers on descriptive paragraphs).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33

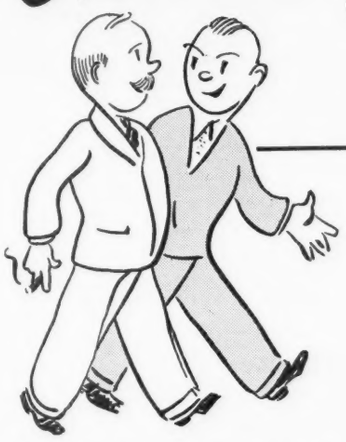
PRINT YOUR NAME AND ADDRESS

NAME.....TITLE.....DEPT.....

FIRM NAME.....

STREET.....CITY.....STATE.....

One man tells another—



"They say the new FLEX all-American mat is the best dry mat on the market."

FLEX
All-American
DRY MATS

The good news about the new FLEX all-American dry mat is spreading rapidly. From now on you will be hearing it more and more frequently. Meanwhile, why not investigate this new dry mat for yourself—by sending for free samples and giving them a trial? Please mention gauge, shrink, and the type of casting equipment you are using.

FLEXIDEAL DRY MAT COMPANY, 21 West Street, New York

Books
Received

The Knack of Selling Yourself

By James T. Mangan

EXECUTIVES who have learned that merit and reliability often are unrewarded as they deserve, because unnoticed and unappreciated, will find a program of selling themselves outlined in *The Knack of Selling Yourself* by an advertising expert, James T. Mangan. He states that only eight qualities are needed to sell oneself and gives them, in the order of their importance and acquisition, as expression, promise, guts, approach, diplomacy, familiarity, reliability, and persuasiveness and describes his conception of these qualities in detail. Expression includes conversational ability, public speaking, writing, acting and creating. From the scope of the first part of the program it may be seen the entire undertaking is broad enough to be interesting. No less an exponent of expression than Robert Louis Stevenson said a couple could live together for years without knowing each other through lack of ability to express themselves. Subheads under acting are putting up a front, show some spirit with zip, be an egotist and make them like it, (shake off the inferiority complex), enthusiasm with constantly accelerated tempo, created by going on "work benders." Promise is the ability to get others to take a chance on a rosy future and uncharted seas of opportunity, to make the conservative start something when it hardly seems worthwhile. Guts is often termed intestinal fortitude, the quality of never feeling licked, always coming back for more until the hammers of misfortune are worn and shattered on your head and you win. It takes some failures to win the victory. Better to have traveled and never arrive than stay at home. A noble failure is sometimes better than a grand success. Win or lose, the point is to keep plugging. The other qualities are described in a delightfully concise style, short paragraphs, sentences and words, most of the latter of Anglo-Saxon origin, strong and clear, and discharged with trip-hammer or machine-gun speed. In spite of the refreshing brevity, the subject is thoroughly and completely covered in a most logical and convincing way. A very interesting book, a veritable course in the applied psychology of salesmanship—and, in the case of production and mechanical executives, the necessary element of winning confidence of your associates is expounded.

Illinois Conference

The Illinois Newspaper Mechanical Conference will convene in Champaign, Illinois, Saturday, Sunday and Monday, Sept. 30 and Oct. 1-2. Headquarters at Inman Hotel.

The following have been appointed chairmen of the group meetings: Sidney Scott, Urbana *Courier*, Composing Room; Howard Colton, Bloomington *Pantagraph*, Stereotype and Pressroom; Harry Pottle, Western Newspaper Union, Chicago, Machinists.

President Lee Moore announces that all delegates who register before 1 o'clock on Saturday will be provided tickets for the Illinois-Bradley football game.

Employment and Service

Employers, production and mechanical executives may insert notices in this department.

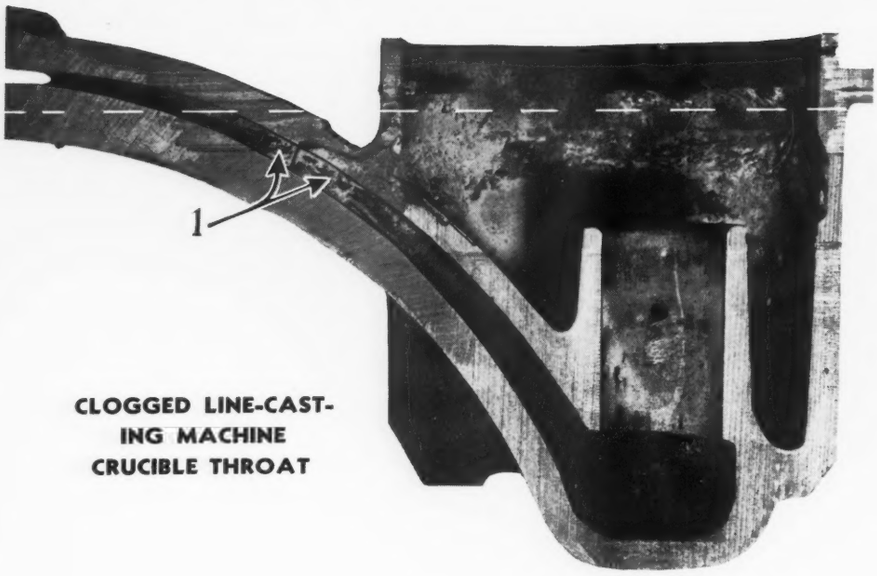
Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

REPRESENTATION—Preparations pending for trip, starting October, through Mexico and around South America, including Caribbean. If American manufacturers wish representation, get in touch with undersigned. Import and export trading will be activated by direct sales, locating agencies, etc. Printing machinery, appliances and implements along electrical engineering and industrial lines can be handled. Display of prints will be made in larger cities.

Gustave F. Bagge, Omega Co., P.O. Box 1405, Cleveland, Ohio.



CLOGGED LINE-CASTING MACHINE CRUCIBLE THROAT

To those who have not had an opportunity of seeing just how the "innards" of a line-casting machine crucible are formed, this illustration showing a crucible cut approximately through the center section will be interesting.*

The point in printing the illustration, however, is to discuss the slag or dross formation which on the occasional crucible will accumulate in the throat as shown at 1. When this occurs, naturally the flow of metal which is being forced upwardly through the crucible throat as the plunger descends to cast a slug, is seriously reduced. Sometimes the dross or slag formation is neglected so that it is no longer possible to secure slugs with clear, sharp letter characters. In such cases, the machinist or operator (if he doesn't recognize the cause) will attempt to raise or lower the metal temperature, broach the mouthpiece jets, deepen the vents, fuss with the plunger diameter, and he may even remove and replace the mouthpiece without probing the throat orifice to see that the passage is clear. Difficulties in casting normal slugs approach gradually, since the slag accumulation in the crucible throat occurs gradually.

The white dash line extending across the crucible near the top represents the level of the metal which should be maintained normally in the crucible. If the maximum metal level is not maintained (approx. ½ in. below the ring inside the crucible) the slag formation will be accelerated. The reason for this is that the air in the crucible throat above the metal level, together with the agitated action of the metal at the time of casting each slug, plus subnormal metal level maintenance in the pot, will cause the slag to form because of the oxidizing action of the air on the metal in the throat. The heat generated by gas burner or electric heater at this point when the pot is standing at normal position is conducive to oxidation because the metal in the throat is rather shallow. These statements should be qualified, because most crucible throats, even after long use, have not become clogged with slag.

In the instance of the particular crucible shown here, the slag formation so completely enclosed the throat that the machinist could not insert the tip of the throat cleaning tool. The crucible was taken from the machine and placed in a power hack-saw. When the blade reached the slag, the teeth of the saw blade were dulled. The final unsawed section of the crucible throat was broken apart as shown in the illustration. The slag formed in the throat for a distance of approximately 4 in., almost entirely closing the passage in the central part of the accumulation.

Best preventives for this sort of thing are to maintain maximum height metal level in the pot and to insist on maintenance of the metal supply to its original formula.

*Courtesy Wm. Reid & Company, Composing Machine Engineers, Chicago, Ill.

Matrix Contrast Used With Teletypesetters

SINCE one chief reason for using matrix contrast service, as applied to Linotype and Intertype matrices, is to save the operator's eyes, it would naturally be expected that a mechanically operated machine—that is, a machine operated by a teletypesetter—would have no need for "Black & White" contrast matrices. So it seemed to F. H. Keefe, publisher of the Newburgh-Beacon (N. Y.) *News*, after his newspaper's installation of teletypesetter equipment some time ago; and so it seemed also to the Matrix Contrast Corporation. In fact, the latter company readily agreed to a cancellation of its service arrangement, as it applied to machines equipped with teletypesetters.

But when the service was discontinued, the man in charge of the teletypesetters wanted it resumed. Wondering why a mechanical operator should be concerned about eyestrain, Mr. Keefe and the Matrix Contrast Corporation investigated.

It was found that despite the accuracy of mechanical operation with the teletypesetter, it is possible for a matrix to fail to respond to the touch of a keybutton, for transpositions or double letters to occur, or for matrices to clog in the assembler chute. In such cases, it was discovered, the man who tends the teletypesetters is much more likely to notice and correct such troubles with "Black & White" matrices, thus preventing machine errors which would not otherwise be caught until perhaps several galleys had reached the proofroom.

The towns of Newburgh and Beacon, N. Y., are situated on opposite sides of the Hudson River. The newspaper formerly used teletype machines for transmitting copy from its editorial room in Beacon to the composing room in Newburgh, and the change to teletypesetters, when the equipment became available, was a natural step which has worked out satisfactorily.

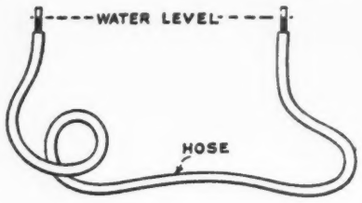
John D. McIntosh is mechanical superintendent on the Newburgh-Beacon *News*, and Arthur F. Lesser is the machinist.

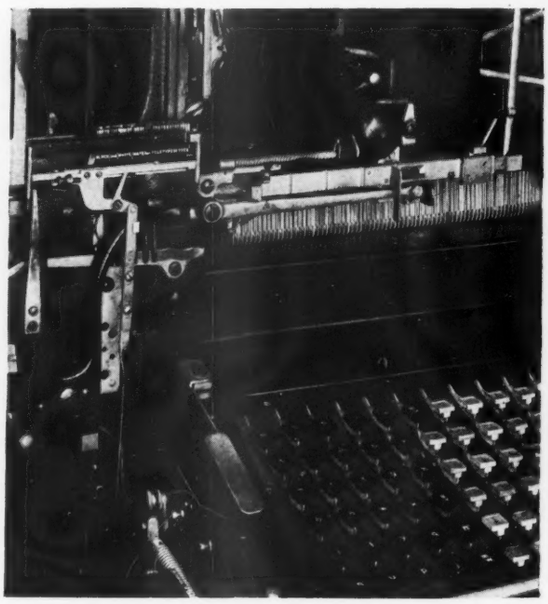
Accurate Leveling and Aligning Kink

By W. F. SCHAPHORST, M. E.

THE accompanying sketch shows how to make a simple and accurate leveling device. Slip gauge glasses into each end of an ordinary rubber hose and fill with enough water so that the level will show in each glass, as indicated. You are now ready for any leveling job—and you can do it accurately.

When filling the hose with water, care must be exercised to be certain that all air is gotten out of the hose. Hold it in a U-position when filling. Do not attempt to fill it by immersing the hose in a tub of water. Also, one end of the hose must not be warmer than the other end. If the water in one end is warmer it will occupy greater volume and the level will not be true. In other words, get rid of all of the air and use water of the same temperature throughout.





At Right:

Teletypesetter-equipped Intertype in plant of Newburgh-Beacon (N. Y.) News. "Black & White" matrices assist operator to detect mechanical errors.

on FLAT BED or ROTARY PRESSES NUMBER BETTER WITH A WETTER

WETTER ROTARY MODELS

A great advance in numbering machines for use on rotary presses. Oversize parts mean increased life. Face of figures accurately ground to insure clean-cut work. Exclusive Wetter features save time in locking machines in place.

Number more profitably, too—exclusive Wetter advantages permit highest speeds, avoid delays, reduce spoilage on all numbering jobs. Here are two of many models widely used:

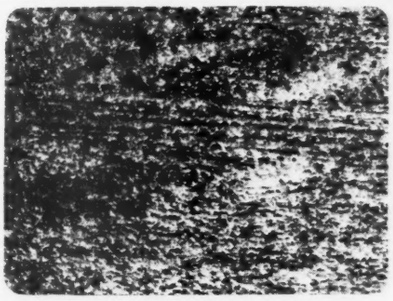
WETTER HIGH-SPEED LOCK WHEEL

Operates perfectly at any speed possible on a flat bed press without overthrow of the wheels. It's the key to fast, accurate numbering. Built-in locking mechanism requires no extra space in the form. Many other models are available to meet any requirement.

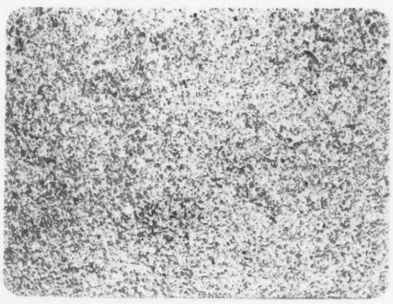
See WETTER Exhibit at Graphic Arts Exposition or write for complete catalog.

WETTER NUMBERING MACHINE CO.
246 LOGAN STREET, BROOKLYN, N. Y.
Sold by all dealers and branches
AMERICAN TYPE FOUNDERS

9287



Photograph of surface of commercial grade zinc after deep etching in engraver's etching machine. Note grain. Magnification: 10 diameters.



Photograph of surface of Edes Triplemetal after deep etching in engraver's etching machine. Note absence of grain. Magnification: 10 diameters.

Micro-facts about EDES TRIPLEMETAL

PAT. APP FOR

The experienced etcher in the newspaper plant will find each job backing the evidence of the metallurgist's microscope—Edes Triplemetal etches rapidly and cleanly, holds fine detail up to 150 screen. Its hardness gives superior results for multiple matrix work, and for service as standing heads and signature cuts. Various newspapers are regularly using Triplemetal in place of zinc for Ben Day plates, for full color work in magazine sections, for large layouts in full page features, for reproducing large type faces, and in many other kinds of special work.

Triplemetal—versatile, efficient, economical—is a worthy companion metal to Edes Superfine Zinc, America's most popular engraving zinc. Inquiries will receive prompt and complete information.

THE EDES MANUFACTURING CO.
PLYMOUTH, MASS., U. S. A.
Established 1850

AUTHORIZED REPRESENTATIVES

CHICAGO: Chemco Photoproducts Co.
NEW ORLEANS: Chemco Photoproducts Co.
ST. LOUIS: Mid-West Photo Eng. Supply Co.
WASHINGTON, D. C.: E. H. Walker Supply Co.
BOSTON: Allan B. Croke Co.
BUFFALO: C. S. Illingworth
DETROIT: Eaton-Clark Co.
AKRON: Metzger Photo Supply Co.
CINCINNATI: G. C. Dom Supply Co.
SAN FRANCISCO: Selby Mohr
ATLANTA: Lamar-Rankin Co.
(DENVER MINNEAPOLIS TULSA WICHITA MEMPHIS DALLAS
OMAHA KANSAS CITY OKLAHOMA CITY DES MOINES HOUSTON SAN ANTONIO)
Thompson-Hayward Chem. Co.

Costs

(*Continued from Page 4*)

total for advertising, news, engraving, and pressroom will add up to every dime that is spent in the mechanical department. There may be a couple of dimes misplaced, but they are all there.

This record can be kept for 2%, or less, of the amount spent for direct labor—or less than 1% of the total. So far as I can learn, the largest papers, with thousands of dollars to handle, don't get their records much cheaper.

How it Works

First, let us consider the matter of line-casting machine time. It would involve a great deal of book work to keep track of the exact amount of time spent on ad composition by each machine that handles a mixed run. Therefore, I have kept track of the time on ads for each machine during two weeks' work, at the same time recording the amount of such work handled. The amount of time, divided by the number of column inches, gives a factor which, when applied to any subsequent run of work, will give you the amount of time that machine was justified in using for its part of the production. In other words, if it took 55 gallons of gas to put 1000 miles on your old bus this week, it will very likely take another 55 gallons for the next thousand miles, over pretty much the same roads.

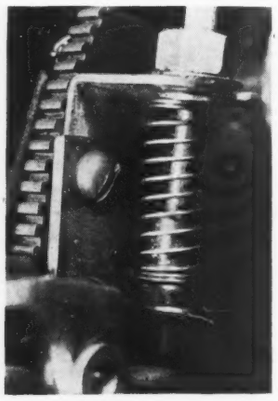


Fig. 2.—Looking to the left of and below the keyboard on a Linotype, Mr. Moffit mounted an automobile choker assembly and bracket on the ejector lever controller lever segment. The choker wire connects with a switch to throw current off and on an electric clock used in obtaining production data. Clock is mounted on distributor bracket.

For each machine that does any composition on display, either ads or news, I work out this factor. (Never mind for the moment how I got the time without time cards—we'll come to that.) In our plant, th ee machines set display. Having worked out a factor for each machine, I add them. This composite factor, a decimal fraction, when multiplied against any reasonably sized chunk of production—say a week's run—will tell how many hours that production required, and if it won't, the speedometer on your car has been kidding you for years and Gallup with his surveys is just a lucky guesser. I took factors for straight matter, too, just to check on the system. In our plant, the boys clean their own machines. I took this cleaning time which, of course, neither factor included, and divided it between ads and news in proportion to the time for each. In a plant with a full-time machinist this work would show up later under "indirect labor."

Getting Time Without Written Records

If we accept the principle of "sample" runs, the next question is how to get the time without asking the boys to keep a written record. I bought an electric clock that starts itself. A little experimenting convinced me that the thing will run on almost any voltage, although it is rated at 110 v. My machines are driven by 3-ph., 220-v. motors. I tapped one side of the line, where I got about 90 v. to a ground. I put the clock into this grounded circuit. Then the clock would run so long as the motor was running and would stop when the motor was switched off—as at lunch time. If the position of the hands was noted when the shift started, the movement by the end of the day would tell how long the motor ran. Then I put a simple knife switch into the circuit. Now the clock wouldn't run even though the motor did, unless the knife switch were closed.

The next step was to provide a means for opening and closing the switch as the machine was changed from one kind of work to another. I thought for a while I would have to fall back on the operator and let him work it by hand—that would at least be better than writing. I still might have to do that in some applications. Finally, I produced a little gadget as shown in the two halftone illustrations pictured herewith, that will do the job automatically, with no attention from the operator.

A bought a choker assembly at an auto-parts store and put a coil spring under the button so it would stand open. Then I cut slots in a piece of strap iron so that it would fit under the two screws that hold the ejector blade controller lever segment on a Linotype. The top of the strap iron is bent over and the choker mounted into it so that when the ejector controller lever is raised it compresses the coil spring and forces the choker wire through. The wire runs in a series of curves back through the frame of the machine and ends at the distributor bracket under and back of the magazine assembly. Here the choker tube is mounted firmly on a block. The block is on a little ply-wood base that carries the switch. The switch is mounted on a pivot, so that as the ejector is set to 12 picas and the switch

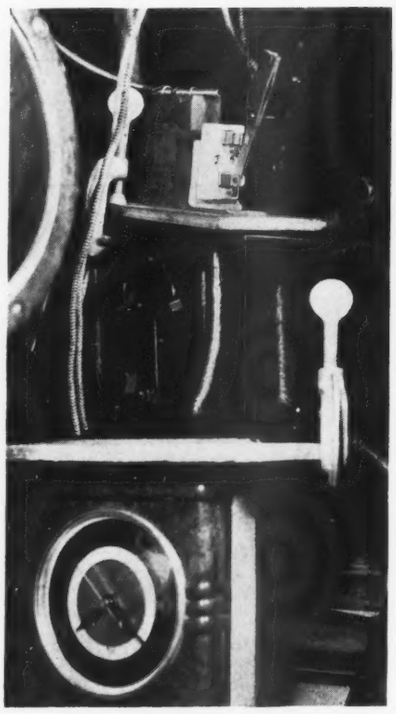
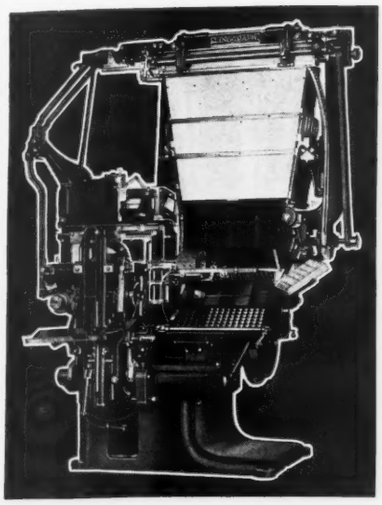


Fig. 3.—View of electric clock mounted on Linotype distributor bracket underneath magazine assembly. The knife switch is connected to throw off or on operation of the clock when operator changes ejector blade. In this way, Superintendent Moffitt of Fort Collins (Colo.) Express-Courier, *can check time required for any kind of composition. Small C-clamps hold both clock and knife switch on distributor bracket. The device may be moved easily from machine to machine for obtaining production data.*

IMPRESSIVE VALUES



MORE VALUE PER INVESTED DOLLAR

There's mighty good reason why Linograph is the most talked about typesetting machine in the industry today.

As one delighted user* says: "It is fast, fool-proof and to my mind a much more satisfactory machine than the (courtesy deletion), which make I had before buying the Linograph. I am especially pleased with the service ideas of the company and the way they back up their salesmen and servicemen.

""The longest it has run without a distributor stop was 14 days but not all my mats were new, so I think this is a dandy record." *Name on request

A Few of LINOGRAPH'S Many Features

- Handles Standard Matrices—also 2 letter display mats.
- Broader Range of Type Faces from 90-channel Magazine than any other machine.
- Main Cams of chrome-nickel alloy.
- Elevator Jaws of oil-hardened tool steel.
- Chromium Plated Distributor Bar.
- Finger-Touch odd-measure setting.
- Universal Ejector, Sectional Blades.
- Split-second Finger-Tip Magazine Shift.

All the facts are in the Linograph 50 Catalog which is yours for the asking

LINOGRAPH CORPORATION
450 W. Front Street **Davenport, Iowa**

They're Soft ...AND THEY Stay soft!

Some "all-season" rollers are fairly soft when new, but seem to be subject to hardening of the arteries as they grow older. Vulcan Gelastic Rollers are soft when new and they *stay* soft.

You can't get satisfactory ink distribution with hard rollers. You can get unexcelled distribution and splendid printing with Vulcan Rollers—not only when they are new but after many months and even years of strenuous service.

By preventing press delays due to roller troubles, and by outlasting ordinary rollers many times over, Vulcan Gelastic Rollers effect large savings of time and money. Write for complete information about them and names of users in your vicinity.

Vulcan Proofing Company
First Avenue and Fifty-Eighth Street
Brooklyn, N. Y.

[Sa'es Representatives in Principal Cities

VULCAN
GELASTIC ROLLERS

Vulcan Gelastic Rollers are soft, resilient, and positively uniform in diameter. They enable you to keep your presses running profitably regardless of weather conditions.

VULCAN
GELASTIC ROLLERS

lever moved by the wire, it will either make the circuit or break it, as you wish.

We set everything on full-length slugs except straight news matter. The gadget and the clock together give a breakdown between long and short measure. They do not give a breakdown between news and ads but that doesn't bother because in measuring the proof all the news display (long measure or extra point-size stuff) is recorded separately.

The ply-wood base for the switch is readily mounted on the frame of the machine with a little C-clamp. Thus there are no holes to drill. Once you have located the feed wire in the motor circuit that suits your purpose (which you only have to do the first time around) the gadget can be moved from one machine to another in five minutes. The electricity runs from the hot lead to a fuse (3 amp.), through the clock, through the switch to a ground. The circuit carries very little "juice" as the capacity of the clock is slight.

Time of Hand Men

In our shop we use only two full-time hand men. They handle the mark-up and care of national advertising plates as well as actual composition. We have not found it necessary to keep any record of individual performance but it would be rather easy to do. We use a tracer on the copy for each ad. If the tracers carried the same number three times when they were printed, and if the number of each tracer were recorded on the list, the compositor could tear off a corner carrying the number and put it on his own spindle—after the manner of the barbers in the old country shop. The inches could be picked up off the sheet and the recorder still wouldn't need to bother with the ad proof.

Indirect Labor

Under indirect labor, as will be seen, I have placed makeup, proofing, machinist, supervision, etc. In charging this indirect, or overhead, labor I have totaled the cost and divided it between news and advertising in proportion as they appear in the paper. I figure the percentage precisely as you would for the postoffice. There is a danger of placing time under this easy classification that rightly belongs elsewhere.

Flat Casting Time

In our plant, flat-casting is undoubtedly a part of composition and the flat-caster should be given credit for his contribution to the work of the composing room. The only evidence of the amount of casting done, that can be found all in one place at one time, is the mats themselves. The mats have to be sorted as to news and ads anyway, and the news mostly burned up, except an occasional mat for the morgue. The ad mats have to be returned to the advertising department. I go down every morning, weigh yesterday's mats in ounces on a postal scale, and bring the ad mats up with me. I have found that an ounce of mats will produce about 20 column-inches of flat cast, but that doesn't matter.

With the clock in circuit with the light over the router I found how much time was spent cutting mortises during a week's run. Then I got the total time for a week. The router time is chargeable directly to ads. The balance of the time is divided according to the ounces of weight. I found that by charging the news mats at 7 cents an ounce and the ads at 8 cents I could account for the labor cost. I weigh tape, backing felt, and all, on the theory that it took time to put

OFFSET
RUBBER
GRAINING
COMPOSITION
ROTOGRAVURE
NON-MELTABLE
FABRIC-COVERED
VARNISH & LACQUER
ROLLERS

SAM'L BINGHAM'S SON MFG. CO.
CHICAGO

ATLANTA CLEVELAND NASHVILLE DES MOINES DETROIT
DALLAS HOUSTON INDIANAPOLIS KALAMAZOO KANSAS CITY
ST. LOUIS MINNEAPOLIS PITTSBURGH SPRINGFIELD, O. OKLAHOMA CITY

When the delivery boy meets the family—

—all dressed up and on their way to the movies, it is time the office down town knew about it and did something. Maybe too many page forms are stepping on the heels of the "starters" in the stereo room. If so, the remedy is plain—Certified speed.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza, Dept. M,
New York, N. Y.

Certified
DRY MATS

Name Copyright 1936 E. A. Booth Rubber Co.

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots. Stand-A-Lone Holders 2 for 25c, per doz. $1.00.

Most Economical Cut Fastening Means in Existence . . .

New 30% faster setting cement helps you get to press on time. Use Booth's Zink Cut Cement sparingly to secure maximum adhesive properties. This cement mounts cuts of all kinds "iron to iron" without deformation of printing level.

Try It!

Foreign Distributors:
SEARS, LTD.
Toronto, Montreal, Winnipeg, Vancouver, Canada
JUNGER & JUNGER
Goteborg, Sweden

E. A. BOOTH
RUBBER COMPANY
364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

that stuff on. Thus the news department gets more for its money—which it should.

Daily Procedure

Only three things *must* be done without fail every day. (1) The news proofs have to be put where they won't get lost or mixed, (2) The flat-cast mats have to be weighed and the ad mats returned to the advertising department, and (3) The clock time on any test in progress must be noted. Everything else could wait.

In our plant the classified department furnishes the shop with a list of classified display, new and pickup, each day. On the back of this sheet I put down the initials of each operator who worked, and the additional headings "6 point," "heads," "handset," and "killout." I measure each proof and make the proper entries under these headings. I give the boys their galley slug, but our takes run long—often a full galley. If standing heads are dropped in by the operator, as with markets, I measure them in. Under "heads" I record heads, 10-point cut-lines, 2 column leads, etc. Handset heads I count as 1 inch for each column width of each line without regard for the size of type. Thus a 2-column, 2-line head is 4 inches. Killout, of course, is anything the editor orders killed. Legals are measured in as so much 6 point when they are set and afterwards ignored.

You'd be surprised at the amount of proof you can run through in 10 minutes, once you get the hang of it. I add them up and enter the totals on the sheet. The other entries are made as follows:

Machine time means the operator-hours for the day.

Sales is just my little record of things that are sold more or less directly out of the shop—engravings for sale, of which we have a few, strip material, flat casts, mats, etc.

Hand time is another pickup from the payroll record.

National advertising is a figure picked up from the advertising list. The bookkeeper gives me this sheet, after he has figured the paper, with his totals for each classification.

Local advertising is the bookkeeper's figure less any pickup or standing ads other than classified, and plus the amount of new classified display and any house ad.

Total advertising is the bookkeeper's figure plus any house ad.

Engravings are measured in column inches and no distinction is made between halftone and line work.

Time test requires a note under it as to what was being tested whenever it is being used.

What System Will Show

You see, you don't need so much, once you get set up—the news proof, the advertising sheet, your payroll record, a proof of the engravings, classified sheet, and a few things that you would carry in your head anyway.

What will the system show?

It will show total costs. And after a man has lived with time cards and payroll records for about so long the size of the total amount that is spent under his supervision is apt to come as a bit of a surprise.

It will give a breakdown between news and ads.

It will give a breakdown between flat cast and press costs. In a small plant the distinction is often lost sight of.

It will indicate the point at which overtime begins to occur. This information is valuable for two reasons: (1) The point just below where overtime begins is the maximum production capacity of the plant; (2) An intelligent forecast of costs on such things as big editions, etc., can be made.

It affords a record of individual performances. You will have noticed that these records are not figured each week, but they are there in the figures.

It will give a basis on which to judge machine efficiency. If various men in the plant lose speed when moved to a certain machine it is not hard to figure out that the machine lacks something. All that is necessary is to move the men around a little and note the effect on production. Sound reasons for machine and personnel changes may come out of such trial figures.

If records like these, or better, were kept in a lot of plants, valid comparisons of costs and performances could be made. Some day, when we get together in conventions and the like, we will start talking about page costs again—and this time the figures will mean something!

Many things are less than perfect in this system. It is fairly accurate and it is cheap and easy to keep. The proofreader, or someone else, can do the work as well as the superintendent. The rate at which the time is figured has to be the average for several months, including overtime, in order that the thing may be kept a production record and not merely a cost record. In a week when unusual overtime occurs the total shown by the record will not be high enough. But it will average out if the rate is kept revised to date. Credit for advertising inches is taken as the ads are published. If you happen to have a lot of ads set ahead when you close the week, the record for that week suffers.

In conclusion let me say that I urge no one to adopt this system. Look it over. If there is anything in it you like, help yourself and welcome. If you know of a better scheme, please let me in on it!

Advisory Council on Graphic Arts Education

WITH delegates from thirteen national associations and educational institutions, two meetings of the Advisory Council on Graphic Arts Education were held in New York City June 28. The council members participated in a symposium with teachers attending the eighteenth annual Conference on Printing Education, held at Columbia University, by the National Graphic Arts Education Guild. An organization meeting of the council, held at the Engineers Club, adopted plans for permanent organization and future activities, which now go to the member associations for ratification.

The symposium with printing teachers covered "Industries' Co-operation With Graphic Arts Education." Each council member described the functions of his association and its interest in educational work. Questions from the teachers followed.

Participating were representatives of: American Newspaper Publishers' Association, W. E. Wines; Association of Business Papers, Inc., H. J. Payne, Carnegie Institute of Technology, Prof. Glen U. Cleeton; Institute of Paper Chemistry, John G. Strange; International Association of Electrotypers and Stereotypers, Dennis F. Hoynes; National Association of Photo-Lithographers, W. E. Soderstrom; National Association of Printing Ink Makers, William T. Diefenbach; National Graphic Arts Educational Guild, Fred J. Hartman; National Printing Equipment Association, Harry L. Gage; United Typothetae of America, Elmer J. Koch, and Young Executives of the Graphic Arts, James B. Ashwell.

At the business meeting of the council, the foregoing were joined by T. E. Dalton, American Society of Mechanical Engineers, and O. A. Dickman, American Institute of Graphic Arts.

The time for the next meeting of the council was tentatively set for the period of the Graphic Arts Exposition in New York City in the fall. The committee on organization continues with Harry L. Gage as chairman and Professor Cleeton and F. J. Hartman as members.

Completes Lecture Tour

Howard N. King, typographic consultant of Intertype Corporation, recently completed a lecture tour among Craftsmen's clubs in some of the middle and southwestern states. Mr. King told printers how to dramatize their typography and layout and stressed the importance of knowing type faces and how to use them.

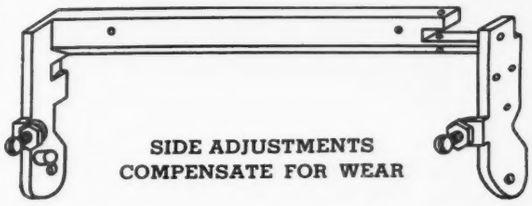
JUSTIFICATION CAM ROLL
AND
SECOND ELEVATOR CAM ROLL
Now Available With
ANTI-FRICTION ROLLER BEARINGS

SPECIFY

B8B	Regular size Roll for use with Roller Bearing.....	$1.40
B8C	Oversize Roll for use with Roller Bearing.....	1.75
M2	Anti-friction Roller Bearing for use with above.....	1.75

★ ★

ADJUSTABLE ASSEMBLING ELEVATOR GATE



SIDE ADJUSTMENTS COMPENSATE FOR WEAR

In addition to the advantage of adjustment—"Star" Gates are made from a *solid block of steel* so as to eliminate welding of end pieces.

The upper right hand corner has been *strongly reinforced* to give further protection against breakage.

Precision
TRADE ★ MARK
Parts

The use of these and other "Star" Typesetting Machine Parts and Improved Parts will give the ultimate in increased machine efficiency—and low maintenance cost.

ACE BELTS HAVE ESTABLISHED RECORDS FOR LONG WEAR—BECAUSE THEY ARE BETTER MADE

LINOTYPE PARTS COMPANY

NEW YORK
203 Lafayette St.

KANSAS CITY
314 West 10th St.

Chicago 318 West Randolph St.
Minneapolis 503 Fourth Ave. South
Denver 1441 Blake St

A Laboratory Product

BURGESS *Chrome* MATS

Uniform Shrinkage...

That's why so many Stereotypers *prefer* Burgess Chrome Mats

204

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of
Burgess *Chrome* and *Tone-Tex* Mats
FREEPORT • • • ILLINOIS

Pacific Coast Representative
RALPH LEBER CO.
426 Polson Bldg. Seattle, Washington

Patents

Recently Granted by U. S. Patent Office

Composing Machines:

2,163,390. TYPE COMPOSING AND CASTING MACHINE. Byrd S. Fine, Clinton, Mass., assignor to The Colonial Press, Inc., Clinton, Mass, a corporation of Massachusetts. Application October 22, 1938, Serial No. 236,403. 10 Claims. (Cl. 199—30).

1. A type composing and casting machine comprising mechanism for selectively assembling matrices in a line, an elevator for receiving the assembled matrices which has spring pressed locking lugs for holding the last assembled matrix in position, mechanism for moving the elevator, and means operated in timed relationship with the elevator movement which pushes the last matrix into position behind said locking lugs.

2,163,821. TYPOGRAPHICAL SLUG CASTING MACHINE. Christian Augustus Albrecht, Berlin, and Hermann Brandenburg, Berlin-Tempelhof, Germany, assignors to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application March 31, 1938, Serial No. 199,096. In Germany December 20, 1937. 14 Claims. (Cl. 199—47).

1. A typographical slug casting machine comprising in combination a mold mounted on a mold carrier, means for reciprocating the mold carrier between positions in which the mold is located respectively for casting and ejecting a slug, means movable with the mold for separating the sprue from a cast slug, means for trimming the slug during ejection, and means for removing the sprue from the sprue separator during ejection of the slug.

2,163,822. TYPOGRAPHICAL SLUG CASTING MACHINE. Christian Augustus Albrecht, Berlin, and Hermann Brandenburg, Berlin-Tempelhof, Germany, assignors to Mergenthaler Linotype Company, Brooklyn, N. Y., a company of New York. Application March 31, 1938, Serial No. 199,097. In Germany December 24, 1937. 7 Claims. (Cl. 199—56).

1. A typographical slug casting machine comprising a mold mounted on a mold wheel, which is movable to carry the mold between the slug casting and ejecting positions, longitudinal channels through the mold and open at both ends, relatively stationary hoods with which the opposite open ends of the channels register and by which they are closed, when the mold is stationary, and means connected to the hoods for passing a current of cooling air through the channels.

2,163,823. SLUG CASTING MACHINE. William B. Ankarstran, Astoria, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application April 20, 1938, Serial No. 203,079. 15 Claims. (Cl. 199—59).

1. In a slug casting machine, the combination of a movable mold carrier, means arranged on the mold carrier for locating it to present the mold in operative position, a frame, and means arranged on the frame to cooperate with the locating means on the mold carrier, the cooperative means comprising a portion fixed to the frame and a detachable portion mounted thereon.

2,163,848. SLUG CASTING MACHINE. William L. Petersen, Springfield, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application May 26, 1937, Serial No. 144,839. 20 Claims. (Cl. 199—47).

1. In a slug casting machine, the combination of a mold, a pump plunger for filling the mold with molten metal under pressure, and automatic means actuated at different periods independently of the pump plunger for delaying the return stroke of the plunger after the mold has been filled with molten metal to allow additional time for the metal to solidify before the pump pressure is removed.

2,163,854. TYPE CASTING MATRIX. John W. Quadt, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application April 20, 1938, Serial No. 203,074. 13 Claims. (Cl. 199—66).

1. A matrix for slug casting machines, comprising a body portion formed on its casting edge with a routing notch and with a formative cavity or character located partly within the routing notch and partly in the casting edge immediately beyond the routing notch.

2,165,177. METAL POT FOR SLUG CASTING MACHINES. Edmund M. Goodbody, Bellerose, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application September 15, 1938, Serial No. 230,101. 3 Claims. (Cl. 22—71).

1. In a slug casting machine having a metal pot with an elongated mouthpiece, a yieldable electric heater disposed longitudinally of the mouthpiece and having resilient means for holding it normally in intimate contact therewith over the entire length thereof, and adjustable means on the mouthpiece adapted in one position of adjustment to cooperate with the heater to yieldingly move a portion only thereof out of contacting relation with a corresponding portion of the mouthpiece in opposition to the resilient holding means.

2,165,347. MEANS FOR LUBRICATING THE SIDE-TRIMMING KNIVES IN A TYPE CASTING MACHINE. George L. Curle, Minneapolis, Minn. Application September 3, 1937, Serial No. 162,325. 2 Claims. (Cl, 199—62).

1. In a type casting machine, means on the vise frame for holding a substance saturated with a lubricant, in combination with a pair of long laterally spaced trimming knives on the vise frame for trimming the sides of a type slug as the same is forced therebetween, a flat wiper blade pivoted relative to the vise frame, at one side of the trimming knives with its free end portion normally resting on the substance, and for edgewise movement therefrom onto the trimming knives, and means for oscillating the wiper blade to move the same longitudinally on the trimming knives and then return the same thereon to the substance, whereby during the forward stroke of the wiper blade, a shearing action is produced between the wiper blade and the trimming knives to remove metal from the trimming knives cut from a type slug and following the shearing action, the lubricant adhering to the wiper blade from the substance, is wiped by the blade transversely oblique onto the trimming knives, and during the return stroke of the wiper blade the lubricant is redistributed on the trimming knives in a reverse direction from that in which it was applied thereto.

2,165,429. TYPE. Fritz Julius Weber, Winterthur, Switzerland, assignor to the firm Schweizerische Lokomotivund Maschinenfabrik, Winterthur, Switzerland. Application July 3, 1937, Serial No. 151,919. In Germany July 10, 1936. 3 Claims. (Cl. 101—398).

1. In a matrix having classifier indentations, a matrix body having a V-shaped aperture provided with classifier indentations on both shanks, a type cast onto both sides of the matrix body, an extension provided on the type carrying the character image and being symmetrically disposed between the two shanks, and the matrix body being provided with a longitudinally extending recess for so receiving the type that the character image on the extension is situated beyond the classifier indentations.

Patent Papers

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C. and enclose 10 cents for each patent paper wanted.

Feeding, Folding, Delivery:

2,160,916. PAPER FEEDING MECHANISM. John Q. Sherman and Albert W. Metzner, Dayton, Ohio; said Metzner assignor to said Sherman. Application August 6, 1937, Serial No. 157,706. 24 Claims. (Cl. 101—47.)

1. In a strip feeding and imprinting apparatus wherein continuous strip stationery receives at longitudinally spaced intervals imprinted legends predetermined by legend determining elements advanced seriatim at timed intervals from a source of supply into an imprint control position, imprinting mechanism for imprinting the stationery at spaced intervals, dual feeding means for differentially advancing superposed strips of record material past an imprinting position and arresting the strips with succeeding differently spaced prescribed areas upon the respective strips in registry with each other and in registry with the imprinting position, impression taking means for pressing the positioned strips and imprinting mechanism together to simultaneously produce impressions upon both strips, and driving means for actuating the imprinting mechanism and dual feeding means in timed sequence.

2,165,172. SHEET-FEEDING MACHINE. Headley Townsend Backhouse, London, England. Application November 30, 1936, Serial No. 113,425. In Great Britain December 6, 1935. 18 Claims. (Cl. 271—59).

1. A sheet feeding machine of the type comprising a feed board over which sheets are to be fed, a side gauge, a sucker for gripping the sheet, and pneumatic means for exhausting the air from the sucker and moving the sucker transversely to draw the sheet sidewise up to the gauge for the purpose of effecting lateral registration of the sheet.

2,165,160. AUTOMATIC FEEDING DEVICE. Georg Spiess, Leipzig, Germany. Application June 28, 1937, Serial No. 150,811. In Germany July 6, 1936. 5 Claims. (Cl. 271—38).

1. A device for automatically feeding sheets of paper or the like from a pile to a sheet working machine, including a uni-directional rotating control shaft for driving the device, conveying means for the sheets, means for separating the sheets from the pile, means for feeding the sheets in rhythmical order, means for alternatively feeding the sheets in non-rhythmical order, means for advancing the sheets in both spaced and overlapping order, and means for regulating the degree of overlapping.

2,165,026. DEVICE FOR DELIVERING PAPER TO PRINTING PRESSES. David G. Bernard, Chicago, Ill., assignor, by mesne assignments, to Donald M. Carter, Chicago, Ill. Application August 31, 1932, Serial No. 631,181. 12 Claims. (Cl. 242—58).

2. A device for delivering paper to printing presses, comprising means for movably mounting a plurality of rolls in position and for connecting the web of the new roll with the web of the expiring roll without stopping the press, a severing device for severing the web of the expiring roll when the connection has been made, a controlling device for the severing device independent of the movement of any part that engages the webs after they have been connected together and being responsive to the increase in thickness due to the connection of the web of the new roll with the web of the expiring roll.

2,164,919. WEB GUIDING DEVICE. Edward F. Harmon, Flushing, N. Y., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del., a corporation of Delaware. Original application December 13, 1935, Serial No. 54,301. Divided and this application January 24, 1938, Serial No. 186,619. 1 Claim. (Cl. 271—2.1).

The combination of a tension guide through which a web passes having longitudinal continuous ribs on opposite sides for lightly engaging the web at opposite points and applying tension thereto, two series of rods on opposite sides of the web in position to receive the web from the tension guide, and a pair of rolls beyond the guide one made up of metal and the other of soft surfaced cylindrical surfaces, half of the rods passing between the metal surfaces and the other half between the soft surfaces of the rolls and

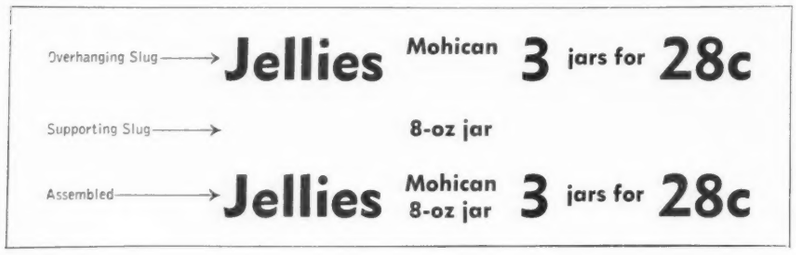
Spartan Duplicate Matrices For Food-Store Ads

Spartan Duplicate, recently made available in the 8 and 10 point size by the Mergenthaler Linotype Company, provide for the setting of food-store ads direct from the keyboard without logotypes or cutting.

To compose and cast the sort of lines illustrated here, in addition to the display faces, 10 point Spartan Duplicate matrices and an advertising-figure mold are used. The small descriptive type is set in 10 point Spartan Duplicate. These faces are the roman of the Spartan Heavy made duplicate character; that is, the same character is punched in both positions. The characters in the auxiliary position, when assembled on the upper rail of the assembling elevator, will cast in the center of 18 and 24 point caps and figures, respectively.

The method of setting is illustrated by the accompanying 10 and 24 point specimens.

The Word "Mohican," set in 10-point Spartan Duplicate, is cast from the normal position. The words "jars for" are assembled in the same line in the assembling elevator in raised position and cast to center with the figures. The display face is 24 point Metro-black No. 2. A regular advertising-figure mold with 10-point liners is used. The second or supporting slug is cast from the same mold, and the words "8-oz Jar" are cast from the normal matrix position.



A WELL MATCHED PAIR

A THOROUGHBRED TEAM OF METALS are Zomo Electric Zinc and A-Z Alloy. These metals are blue ribbon performers and are ideally suited to the fast pace which modern engraving demands. Melted and cast in the electric induction furnace, these metals round out the requirements of the well balanced shop —Zomo Electric Zinc for all regular work, A-Z Alloy for long direct printing runs or heavy mat duty.

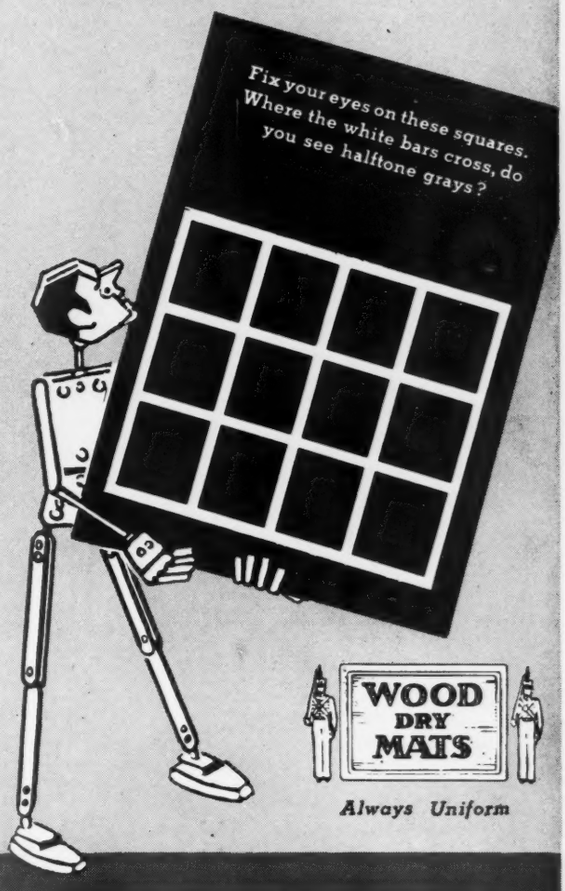
You can order Zomo Electric Zinc and A-Z Alloy, plain or BACKOTED, from leading metal suppliers in the United States, Canada, and England.

ZOMO ELECTRIC ZINC
AND
A-Z ELECTRIC ALLOY

STEREOTYPERS CAN'T DEPEND ON

GUESSWORK

IN HOLDING HALFTONE DETAIL



END GUESSWORK WITH
WOOD DRY MATS

THE gray spots you see are optical illusions. For hard-to-hold halftone grays and tricky middletones, use Wood Dry Mats and take the guesswork out of your molding and casting problems. We'll gladly send you a sample lot!

WOOD FLONG CORPORATION
HOOSICK FALLS NEW YORK

both series extending downwardly beyond the rolls and constituting guides for the web.

2,164,370. FOLDER FOR PRINTING MACHINES. Adolph M. Zuckerman, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application September 10, 1937, Serial No. 163,170. 8 Claims. (Cl. 270—6).

1. In a folder for a web printing machine means to sever the web into sheets, a collecting cylinder to which the sheets are transferred, folding and delivering mechanism for operating with the collecting cylinder, and a second cylinder cooperating with the folding and delivering mechanism and being adapted to receive a portion of the sheets cut by the cutting means; the second cylinder being positioned to engage the sheets before they reach the collecting cylinder.

2,163,274. SHEET SEPARATOR AND FEEDER. John G. Dixon, Chicago, Ill., assignor to Otho D. Beall, Chicago, Ill. Application May 29, 1937, Serial No. 145,533. 9 Claims. (Cl. 271—26).

1. In an apparatus for successively separating the topmost sheets of a pile individually and conveying the same away from the pile, the combination of a member having a downwardly-facing cylindrical cavity, a plunger reciprocatory in the cavity, a hollow resilient suction-cup mounted on and movable with the plunger, conduit means connecting the interior of the suction-cup with the cavity, a stop in and near the mouth of the suction-cup limiting the degree of flexure of the sheet in the suction-cup without interfering with the continuance of the suction in the cup acting on the sheet, a spring tending to force the plunger and suction-cup down, means limiting the descent of the plunger and suction-cup, means to apply and to terminate the application of suction in the cavity and suction-cup, one or more buckle-gauges mounted on and movable with the member, and means to move the member and associated elements to cause the gauge or gauges and suction-cup to engage the top sheet of a pile, to separate such sheet from the pile, and to convey it away, the applied suction in the cavity overcoming the action of the spring and raising the plunger and the suction-cup.

Miscellaneous:

2,162,440. MACHINE FOR PRINTING DESIGNS ON FABRICS. Claudius Masson, Lyon, France. Application October 6, 1937, Serial No. 167,626. In France October 9, 1936. 14 Claims. (Cl. 101—123.)

1. A machine for printing designs on fabrics or the like comprising in combination a table whereon the fabric is fixed in a stretched condition; rails on both longitudinal sides of the table; a carriage guided and supported by the rails; means to stop the main carriage at a number of positions along the table; a perforated printing surface carried by the main carriage; means on the main carriage to lower the perforated printing surface on the table and to raise it therefrom; a dye scraper adapted to spread dye on the perforated printing surface; a scraper-driving carriage adapted to reciprocate the dye scraper across the perforated printing surface; guiding means on the main carriage for the scraper-driving carriage; driving means on the main carriage to reciprocate the scraper-driving carriage; and a pivotal connection between the scraper and the scraper-driving carriage, the connection being longitudinally disposed with respect to the guiding means for permitting self transverse adjustment of the scraper on the perforated printing surface.

2,165,499. PRINTING OF ARTIFICIAL FOILS, FILMS, AND SIMILAR PRODUCTS. William Henry Moss, London, England, assignor to Celanese Corporation of America, a corporation of Delaware. No Drawing. Application May 5, 1936, Serial No. 77,922. In Great Britain May 17, 1935. 12 Claims. (Cl. 101—426).

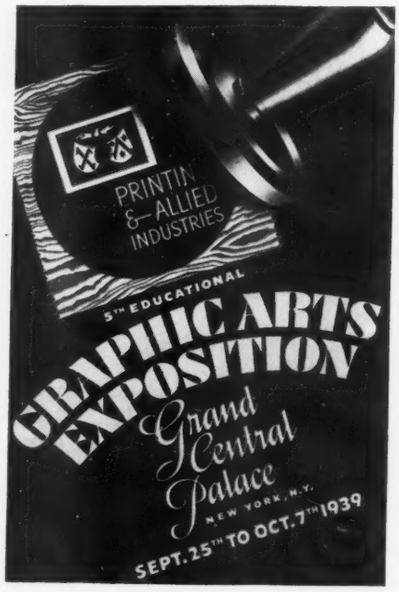
1. A printing ink which comprises a pigment, plasticizable material comprising an organic derivative of cellulose and a plasticizer therefor in a proportion of at least 500% of the total weight of the plasticizable material.

2,164,806. DIE PRESS WITH ROLLER FEED. Walter C. Eickman, Dayton, Ohio, assignor to Harris-Seybold-Potter Company, Cleveland, Ohio, a corporation of Delaware. Application April 10, 1937, Serial No. 136,133. 12 Claims. (Cl. 164—22).

2,161,712. EJECTOR FOR EJECTING PRINTED ARTICLES FROM A PRINTING MACHINE. Joseph Krell, Berlin-Zehlendorf, Germany, assignor to Adrema Maschinenbauges m. b. H., Berlin, Germany. Application February 7, 1938, Serial No. 189,199. In Germany February 27, 1937. 7 Claims. (Cl. 271—84.)

1. In an ejector for ejecting printed articles from a printing machine, an oscillating printing arm, a frame, an ejector rod mounted to slide in the frame, a striker lever fulcrumed on the frame, means for abruptly transforming the forward circular movement of the striker lever into forward straight-line movement of the ejector rod, a spring for returning the ejector rod into its initial position, a striker spring arranged to move the striker lever forward against the action of the return spring, a member on the printing arm for depressing the striker lever against the action of the striker spring during the descent of the printing arm, a pawl for locking the striker lever in its depressed position, means on the pawl adapted to be engaged by the member during the ascent of the printing arm, for disengaging the pawl from the striker lever, and mechanism operatively connected to the skipping means of the printing machine for holding the striker lever in its depressed position notwithstanding its release by the pawl.

8. In a machine, a frame, a lower fixed roller and an upper vertically movable roller, gears on adjacent ends of the rollers, a casing for the gears removably and oscillatably mounted on the shaft of the lower roller, idler gears supported internally upon the casing adapted to mesh with the roller gears for transmitting driving force from one to the other, a stud threaded into the frame and projecting through an opening in the casing of larger size than the stud, whereby adjustments may be made for insuring proper mesh of the idler gears with the roller gears and whereby the casing with the idler gears may be removed to permit the



upper roller to be raised to inoperative position, and means under control of a single operating element for raising and lowering both ends of the upper roller equally and for exerting downward spring pressure upon the upper roller.

2,164,162. TYPE BED AND HOLDER. Edd C. Oliver, Adrian, Mich. Application May 27, 1937, Serial No. 145,073. 4 Claims. (Cl. 101—380).

1. A device comprising a type bed having a series of spaced parallel grooves, a series of type holders arranged for insertion in the grooves, each holder having at least one end formed at an acute angle providing a holder of less length at the base than at the top whereby the upper edge overlies the bottom edge when positioned in a groove of the type bed, and a rubber like compressible type having a base engaging the bed, the holders being slidable in the grooves to wedgingly engage the type and prevent the type from being lifted from the bed in a printing operation.

2,163,024. PAGE TIE-UP SLUG. Laurence A. Costigan, Philadelphia, Pa. Application October 25, 1937, Serial No. 170,825. 7 Claims. (Cl. 101—404).

1. A page tie-up slug having two generally rectangular openings, tongues projecting from one of the side walls that define the respective openings and spaced from the other three walls that define the openings, one of the tongues terminating in arrowhead teeth spaced from the bounding wall of one opening and the other of the tongues terminating in pointed teeth spaced from the bounding wall of the other opening and provided with a tie finger.

Plate Making:

2,158,158. APPARATUS FOR THE MANUFACTURE OF PRINTING PLATES. Joseph Henry Shea, Baldwin N. Y. Application April 20, 1935, Serial No. 17,410. 15 Claims. (Cl. 113—59.)

1. Apparatus for the manufacture of plates from which impressions are made comprising a quenching tank, a track entering the tank, a carriage comprising upper and lower platens, means to permit separation of the platens for insertion and removal of work, means to heat the platens when in separated relation at loading position, the carriage being adapted to travel on the track from a loading position without the tank to a quenching position within the tank.

2,160,951. PROCESS AND DEVICE FOR THE REPRODUCTION OF DESIGNS ON PRINTING PLATES BY MEANS OF PHOTOELECTRICALLY CONTROLLED GRAVERS. Francesco Alice, Omegna, Italy. Application June 30, 1936, Serial No. 88,240. In Italy July 5, 1935. 8 Claims. (Cl. 178—13.)

1. An apparatus for engraving a multi-design on a fabric printing roll, comprising a fabric printing roll coated by a protective coating, a roll containing a design to be reproduced, means for supporting the rolls for rotation, means for rotating the rolls in synchronism, a photoelectric scanner, means for mounting the scanner for displacement axially of the roll containing the design to be reproduced, guide rails extending axially of the printing roll, a plura of eitylectromagnetic gravers mounted on the rails for movement axially of the printing roll, means for displacing the scanner and gravers in synchronism along the rolls, and means for inclining the graver guide rails relatively to the axis of the printing roll, the means being operable independently of the scanner mounting whereby the engraved design is distorted relatively to the scanned design by a predetermined amount.

2,158,249. PLATE FINISHING MACHINE. Leonard G. Olander, Minneapolis, Minn., assignor to The Monomelt Company, Incorporated, Minneapolis, Minn., a corporation of Minnesota. Application March 6, 1937, Serial No. 129,408. 7 Claims. (Cl. 90—18.)

4. In a plate finishing machine having a cutter and a plate supporting member reciprocable past the cutter, the combination of a frame, a second member supporting the plate supporting member and having a surface disposed in a plane parallel to the direction of movement of the plate and swinging means for supporting the second member for raising and lowering the same to adjust it for different cuts on the plate and maintaining the surface parallel to the plane including a plurality of links spaced longitudinally of the member, the links being of equal length, pivots at one end of the links connecting the same to the frame and pivots at the other ends of the links connecting the same to the second member, the links being arranged in parallel relation and manually operated means for swinging one of the links whereby all must move in unison.

2,158,903. PHOTO-PRINTING APPARATUS. Max Knobel, Arlington, Mass., assignor to Block-Jones Photo Co., Inc., Dorchester, Mass., a corporation of Massachusetts. Application January 2, 1938, Serial No. 185,879. 8 Claims. (Cl. 88—24.)

1. In a photo-printing apparatus, a light sensitive cell arranged to receive a definite portion of light passing through the negative being printed, a plurality of electric condensers respectively of different capacities arranged to be selectively associated with the cell and to have the electric charge varied by the cell in accordance with the light received by the cell, a plurality of variable potentiometers respectively associated with the condensers to predetermine the original voltage across the condensers, a switch for selectively associating the condensers with the cell, and means associated with the cell for terminating the printing exposure when the condenser selected is brought to a predetermined charge, variation of the original voltage by the potentiometers being adapted to vary the time period for the termination of the printing exposure.

2,159,588. PROCESS FOR THE PHOTOMECHANICAL MANUFACTURE OF PRINTING FORMS FOR INTAGLIO PRINTING. Josef Gorig, Loevenich, near Cologne, Germany, assignor to firm Bekk & Kaulen Chemische Fabrik G. m. b. H., Loevenich, near Cologne, Germany. No Drawing. Application March 4, 1936, Serial No. 67,068. In Germany April 2, 1935. 10 Claims. (Cl. 95—5.7.)

1. A process for the photomechanical manufacture of printing forms for intaglio printing by means of a doctor which comprises covering a metallic body used as the basis for the printing form with a light sensitive chromatized colloid layer, exposing the same twice, under a diapositive of a continuous unscreened halftone image and under a photogravure screen in any succession, the one after the other, and then treating the metallic body covered with the undeveloped, twice exposed colloid layer with a swelling means and an etching means.

2,159,693. TRANSFER. William Standish Gaylord, Jr., Summit, N. J. Application December 20, 1937, Serial No. 180,885. 11 Claims. (Cl. 41—33.)

1. A transfer of the heat and pressure type comprising an impervious backer sheet, a thermoplastic lacquer film on the backer sheet, a printed design on the side of the lacquer film which is opposite the backer sheet, a background film of pigment covering the printed design, and a film of thermoplastic adhesive overlying the film of pigment.

2,160,750. PHOTOGRAPHIC COMPOSING MACHINE. Louis Meyer, New York, N. Y., assignor, by mesne assignments, to American Type Founders, Inc., Elizabeth, N. J., a corporation of New Jersey. Application August 15, 1936, Serial No. 96,149. 30 Claims. (Cl. 95—4.5.)

1. In a photo-printing machine, a character carrier having opaque and transparent sections defining the characters and spacing lines therefor, a pair of carriages movable toward and away from each other and having means for supporting a strip of photographic material for longitudinal movement in the direction of movement of the carriages, means to produce an image of a selected character on the strip between adjacent edges of the carriages, shutter means on one carriage for controlling exposure of the strip to the image and means on the carriages for selectively clamping the strip thereto.

2,162,825. METHOD OF AND APPARATUS FOR MAKING ELECTROTYPE PLATES. Ernst R. Richards, Chicago, Ill. Application July 11, 1935, Serial No. 30,938. 6 Claims. (Cl. 101—401.1).

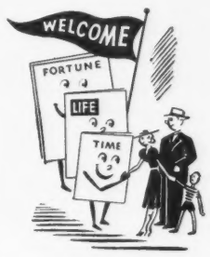
1. The improved method of making a curved electrotype plate which consists in curving an electrotype shell to the desired curvature for the cylinder, then applying soldering material to the concave surface of the shell, then superimposing a relatively hard metallic backing on the shell, which is curved to conform to the shell, with a layer of filler material therebetween, confining the edges of the assembled parts to prevent lateral movement thereof, then placing the assembled parts in a press and heating the same while under pressure to a sufficient degree of temperature to soften the filler metal and cause it to flow into and fill all surface irregularities in the shell and melt the soldering material and cause it to unite the shell to the backing, and finally cooling the plate under pressure, tending to hold it in the shape desired for the press.

Keeping in Touch

PEA GREEN—"As like as two peas in a pod" is a proverb which is utterly ignored by the U.S. Department of Agriculture. Peas aren't alike, even if they come from the same pod, says their Bureau of Standards, which classifies these roly-poly little vegetables into groups according to size and color. Distinguishing various sizes isn't particularly difficult, but sorting peas according to color is more tricky. So when FOOD INDUSTRIES magazine decided to print up an insert describing these classifications they called on Arthur Allen,

the noted color consultant, to match in printing inks the "pea greens" which the Department of Agriculture had set up as distinguishing between Grade A and Grade B peas. Slight shade variations would make the "pea color guide" useless. But Mr. Allen did the job so that no one could be led astray by false pea colors. Oh yes, one thing more—the insert was printed with IPI pea green inks.

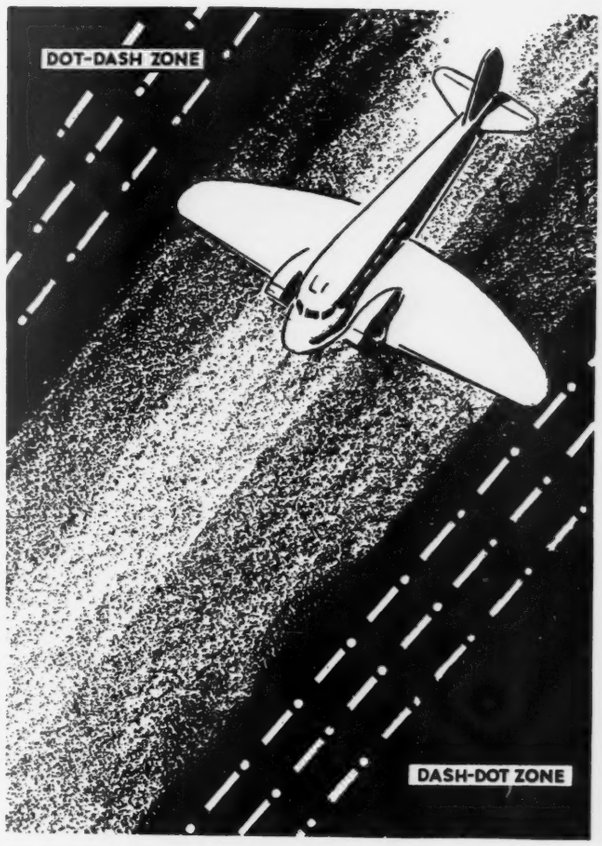
AT HOME—TIME INC., is "at home" this summer to TIME, LIFE and FORTUNE subscribers visiting New York. A whole floor of the TIME and LIFE Building in Rockefeller Center has been turned into a Subscribers' Library with books, magazines, home town papers, movies, television and other attractions to entertain visitors. One of the most interesting sections of the floor is devoted to telling how TIME and LIFE are produced. The story of ink is an integral part of the production sequence, for it was IPI's instant-drying Vaporin that helped to make possible the remarkable speed printing schedules for which these magazines are famous. A proof press, installed at the exhibit, demonstrates how much faster Vaporin dries than ordinary inks. We could fill up the rest of this column telling you about other features of this novel "Subscribers' Library" of TIME's but why not discover them for yourself? TIME will gladly send a guest card to friends of IPI. Simply write to TIME INC., Room 27-07, TIME and LIFE Building, Rockefeller Center, New York.



PIONEER PRINTER—A few months ago we ran an item in which we mentioned Stephen Daye, who set up "the first printing press in America in 1638." One of our readers has written to us to point out that Mr. Daye was not the first printer in America—he missed the honor by exactly 99 years. The first press in America was actually in operation a good many years before the Pilgrims landed. It was established in 1539 in Mexico City by Juan Pablos, just 20 years after Cortes had conquered the Aztecs. It is doubtful that Senor Pablos used IPI inks, but just the same we are glad to give him his full due as the true pioneer printer of the Western World.

INTERNATIONAL PRINTING INK
DIVISION OF INTERCHEMICAL CORPORATION
DEPT. P. E. G., 75 VARICK STREET, NEW YORK, N.Y.

ipi



CONTROL

When today's big airliners streak across the sky on split second schedule, they are riding radio beams. The pilot is continually on the alert for that continuous hum in his earphones that means he is on his course. If he deviates to one side, the signal changes to dash, dot—dash, dot. If he veers to the other side, the signal is dot, dash—dot, dash. In either case he must bring his plane back into the radio beam to fly straight to the landing field without difficulty. This is control to a high degree.

Imperial Type Metal has worked type metal control, also, to a high degree. Monthly analysis of your metal by the Imperial Type Metal Co. working under the Imperial Plus Plan is bound to keep your type metal on the right course. It cannot vary one way or the other without Imperial knowing it and correcting it. Thus, Imperial takes full responsibility for the condition of your type metal and gives to you a service that is invaluable to any type metal user. Let Imperial control your metal. Switch today to Imperial.

Imperial

IMPERIAL TYPE METAL COMPANY
Philadelphia • New York • Chicago • Los Angeles

Equipment Sales

Intertype Installations

One or more Intertypes have recently been ordered by the following: Apache County (Ariz.) *Independent-News*; Astorian (Ore.) *Budget*; Toledo, (O.), *Blade;* New York *Times;* Providence (R. I.) *Journal;* Beam and Bermender, Inc., New York City; Beard Printing Co., Detroit, Mich.; Sacramento (Cal.) *Bee;* Bureau County (Ill.) *Republican;* Carpenter and Morehouse, Amherst, Mass.; Centre Linotypers, Inc., New York; City Printing Co., Pittsburgh, Pa.; Clay Printing Co., Lexington, Ky.; Cornelius Printing Co., Indianapolis, Ind.; Crown Printing Co., Brooklyn, N. Y.; *Herald*, Lynn, Ind.; *Herald-Journal*, Greensboro, Ga.; *Herald-Traveler*, Boston, Mass.; *Journal*, Draper, Utah; M. Kallis and Co., Chicago, Ill.; *Local*, Cornwall, N. Y.; Harry Newman, Brooklyn, N. Y.; C. H. Nevins Printing Co., Pittsburgh, Pa.; *News*, Mankato, Minn.; *Phonograph*, St. Paul, Neb.; *Post-Tribune*, Gary, Ind.; *Register*, East Syracuse, N. Y.; *Republican*, Belvidere, Ill.; Gus Russell, Atlanta, Ga.; E. J. Schlegel, Portland, Ore.; Soverign Grace Publications, Los Angeles, Cal.; *Star*, Glendale, Cal.; *Sunset Press*, San Francisco, Cal.; *Tribune*, Johnstown, Pa.; *Union Democrat*, Sonora, Cal.

Large Kelly Press Order

American Type Founders, Inc., has closed a contract with the General Printing Office of the United States Government for the sale of nine No. 2 Kelly presses. The value of the contract is stated to be $58,410.

June Kluge Installations

12x18 Kluge Automatic Presses: Kiefer Printing Service, Allentown, Pa.; *Union Press* (Pa.) *Courier;* Haskell Printing, Los Angeles, Calif.; Hollywood (Calif.) *Press;* Glen News Printing Co., Inc., Glen Ellyn, Ill.; Brookes & Sons Co., Chicago, Ill.; Pechacek Printing Co., Sioux City, Iowa; Chester (Ill.) *Herald Tribune;* Pioneer Publishing House, Philip, S. D.; The American Printing Co., Green Bay, Wis.; Bauer Printing Co., Appleton, Wis.; Johnston Print Shop, Escanaba, Mich.; Dr. Hess & Clark, Inc., Ashland, O.; Phillips Printing Co., Columbus, O.; Browne Printing Co., Detroit, Mich.; Cortland Print Shop, Detroit, Mich.; R. L. Polk & Co., Detroit, Mich.; Riehl Printing Co., Cleveland, O.; Garnett Printing Co., Owosso, Mich.; The Central Printing Co., Dayton, O.; Ben Franklin Co., Cincinnati, O.; Lockman Printing Co., Springfield, O.; Bramo (N. Y.) *Press;* The Print Shop, Brooklyn, N. Y.; Lackawanna Printing Co., Lackawanna, N. Y.; H & L Printing Co., Brooklyn, N. Y.; F. & E. Casselman, Inc., New York, N. Y.; Loughry Printing Co., Ft. Worth, Tex.; Fibreboard Products, Inc., Stockton, Calif.; The City Printing Co., Bradford, Pa.; *The Atlas* (D. C.) *Press;* The Danville Printing Co., Danville, Va.; Service Printing Co., Washington, D. C.; Hunter H. Vinton, San Francisco, Calif.

12x18 Kluge Feeders: Samuels Printing House, New Orleans, La.; Sheffield Standard, Sheffield, Ala.

12x18 Kluge Combination Die-Cutting and Printing Presses: Dickerman Box Co., Cambridge, Mass., 12x18 Kluge Combination Die-Cutting and Printing Press; Uptown Paper & Envelope Corp., New York, N. Y., 12x18 Kluge Die-Cutting Press; Bastian Bros. Co., Rochester, N. Y., 12x18 Kluge Combination Die-Cutting and Printing Press; Eaton Mfg. Co., Houston, Tex., 12x18 Kluge Combination Die-Cutting and Printing Press.

10x15 Kluge Automatic Presses: Barnhart Printing Co., Los Angeles, Calif.; Keefer Printing Co., Inc., Fort Wayne, Ind.; Harold S. Goff, Riverside, Ill.; S. J. Lapp & Co., St. Louis, Mo.; International Shoe Co., St. Louis, Mo.; Mr. Berne E. Joy, Centralia, Ill.; Clifford Bros., Juneau, Wis.; West Side Printing House, Newark, N. J.; *Star* (N. Y.) *Press;* Red Front Print Shop, San Jose, Calif.

10x15 Kluge Feeders: Mock & Boyd, New Milford, Conn.; *Randolph* (Ill.) *Press;* Kaukauna Times Printing Co., Inc., Kaukauna, Wis.; Clarksdale Printing Co., Inc., Clarksdale, Miss.

4-Roller Kluge Automatic Presses: Krafts Printing Co., Chicago, Ill., 10x15 4-Roller KAP; *Leicht* (Minn.) *Press, Inc.*, 10x15 4-Roller KAP.

Adds Second Ludlow

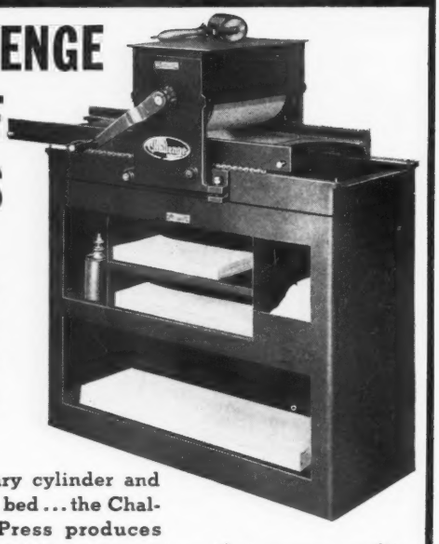
The U. S. Bureau of Engraving and Printing, Washington, D. C., recently installed a second Ludlow for work in the production of government bond coupons and certificates, on overprinting of pre-cancelled stamps, and on ruleform work.

Other recent Ludlow installations are: Winnipeg (Can.) *Tribune;* Springfield (Mo.) *Leader and Press;* Peoria (Ill.) *Star;* Dallas (Tex.) *Dispatch-Journal;* Bridgeport (Conn.) *Sunday Herald;* Bloomsburg (Pa.) *Morning Press;* New Britain (Conn.) *Herald;* Midland (Mich.) *Daily News;* Worcester (Mass.) *Labor News;* Sedalia (Mo.) *Capital-Democrat;* Haverhill (Mass.) *Record;* Catskill (N. Y.) *Evening Mail;* Marysville (Calif.) *Appeal-Democrat;* Lowell (Mass.) *Sunday Telegram;* and Wakefield (Mass.) *Item.*

Elrod lead, slug, rule, and base casters have been installed recently by the Peoria (Ill.)

Operates like a Cylinder Press

CHALLENGE PROOF PRESS



Models
1418-C
1425-C
2025-C

With stationary cylinder and reciprocating bed ... the Challenge Proof Press produces accurate, unyielding impressions that assure quality proofs. Removable galley plate. Three sizes: 12x18-in. galley to full newspaper form. Model CG, same sizes and construction as Model C, has the new Challenge Register Device with hand-operated Bed GRIPPER. Steel stand optional with either model. Write for prices.

THE CHALLENGE MACHINERY COMPANY
GRAND HAVEN, MICHIGAN 338
CHICAGO, 17 E. Hubbard St. 200 Hudson St., **NEW YORK**

PAR FOR PRINTERS
(Standards for Production)
published by
Production Standards Corporation

The positive and specific **standards** whereby leading plants throughout the English-speaking world are operated. This is the instant, authentic reference on all phases of commercial letterpress production— composing room through bindery— which has enabled hundreds of executives to support their judgment with sound facts and to gain the cooperation of associates and workers. Distributed solely under lease, which includes extensive and regular revisionary and supplementary service.

Junior Edition (for equipment not exceeding maximum capacity of 22 x 28")—$15 the first year; discount in subsequent years.

Master Edition (for all phases of operation)—$50 the first year; discount in subsequent years.

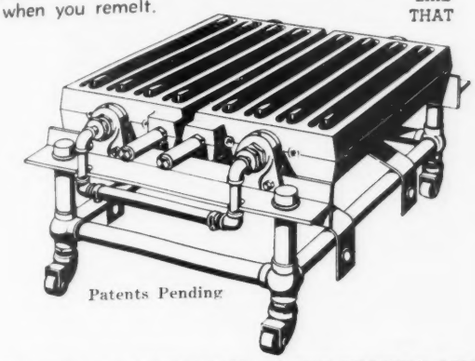
For Lease Forms, Write

Printing* EQUIPMENT *Engineer
1276 West Third Street **Cleveland, Ohio**

The double-ear SLIP-OFF INGOT

Slips off the hook automatically when it reaches the part where in the old style ingot the hot tip on the hook had to be taken off by hand. (See illustration). And the molds in which to cast them when you remelt.

JUST LIKE THAT



Patents Pending

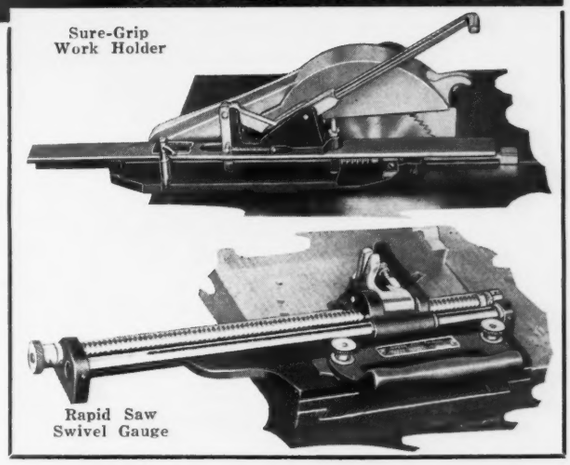
SEE THEM IN OPERATION AT THE GRAPHIC ARTS EXPOSITION, NEW YORK, OR WRITE FOR DETAILS

United American Metals Corp'n

200 Diamond Street.....Brooklyn, N. Y.
2246 W. Hubbard Street.....Chicago, Ill.
4101 Curtis Avenue.....Baltimore, Md.
785 Bryant Street.....San Francisco, Calif.

Patented

Make your old saw BETTER THAN NEW!



MODERNIZE THE MODERN WAY!

Equip your old Miller Saw for better than new saw performance. The Sure-Grip Work Holder eliminates fanning, holds more slugs more securely than any other holder on the market. The Rapid Saw Swivel Gauge takes in measures from 6 points to 133 ems instantly, permits fine, micrometer adjustments. Easily installed. Write for details.

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1611 N. E. Polk Street **Minneapolis, Minnesota**

ZEPHYR BLACKS

Timed to the Tempo of the MODERN Pressroom!

Perfected in three grades, they are available for practically any job. But you must try them to fully appreciate their value; it is impossible to adequately describe them. You must see for yourself how they speed production . . . with safety and certainty.

They cost no more than ordinary inks and every plant should stock Zephyr Blacks for rush jobs. Write for descriptive folder.

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GUMMED PACKING FELTS

The Adhesive: The only coating of its kind on the market, developed specifically for use on dry mats.

- **Will not block or stick together**
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The Felt: Manufactured expressly for packing dry matrices by the country's highest priced felt manufacturer.

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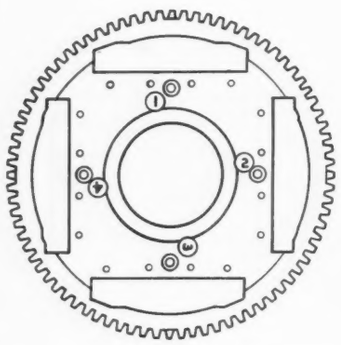

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Our patented process substitutes a steel ring in place of broken or cracked iron rim. We also true up warped and sprung disks in the process. Loans and exchanges arranged. Rebuilding charge is only $30.

MAGAZINES FOR LINOTYPES

This magazine (for models L, 4, 5, 6, 8, 14, 18, 19, 25, 26) represents culmination of ten years' constant improvement manufacturing magazines. It is light—20 pounds lighter than an old style magazine. We use duralumin for top plate and brass for lower plate. Resulting magazine has all best features with criticisms of none. It is light, yet rugged. Superior to others in quality yet as low as others in cost. Time payments arranged. Also sold by nearly all dealers.

NEW CATALOG containing 108 pages, 8½ x 11, spiral-bound, is free for asking. Shows the many parts, accessories and repairs on which we can save you money.

MATERIAL WANTED: We buy, sell and trade new, used and rebuilt molds, magazines, fonts, Monomelts, motors, etc. Tell us of any surplus material.

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Star; Troy (N. Y.) *Record;* Bloomington (Ill.) *Pantagraph;* Union City (N. J.) *Hudson Dispatch;* Wilmington (O.) *News-Journal;* Dorchester (Mass.) *News;* Pasadena (Calif.) *Independent;* Jamaica (N. Y. *Long Island Daily Press;* Sedalia (Mo.) *Capital-Democrat;* Bloomsburg (Pa.) *Morning Press;* St. Petersburg (Fla.) *Times;* Beaver Falls (Pa.) *Tribune;* Three Rivers (Mich.) *Commercial;* West Los Angeles (Calif.) *Independent;* Amsterdam (N. Y.) *Evening Recorder;* San Jose (Calif.) *Evening News;* Midland (Mich.) *Daily News;* Simcoe (Ont.) *Reformer;* and by the Batavia (N. Y.) *Daily News.*

Recent Linotype Installations

Lloyd's of London has ordered fourteen mixer Linotypes; the *Denver Post,* eight Blue Streak Model 8s, and *La Presse* of Montreal, eight Blue Streak Model 31s.

Other Linotypes recently have been installed by the Troy (N. Y.) *Times* and the *Record;* Lloyd Hollister, Inc.; El Dorado (Ark.) *Daily News* and the *Evening Times;* Austin (Texas) *American* and the *Statesman:* Edmonton (Alta.) *Journal;* Barnes Printing Company, Inc., New York City; San Rafael (Calif.) *Independent;* Culver City (Calif.) *Citizen;* Roberto Garcia Gomes, Laredo, Texas; Somerset (Pa.) *American;* Putnam County Graphic, Greencastle, Ind.; Collier Printing Company, Wooster, Ohio; Mount Vernon (Iowa) *Hawkeye-Record;* Keystone Typesetting Company, Chicago; Cedarburg (Wis.) *News;* Kankakee (Ill.) *Republican News;* Nevada (Iowa) *Evening Journal;* Wallace Press, Chicago; Dunlap, The Printer, Inc., Erie, Pa.; Beaumont (Texas) *Enterprise;* Rockwell City (Iowa) *Advocate;* Texarkana (Texas) *Gazette* and the *News;* Hot Springs (Ark.) *New Era* and the *Sentinel Record;* Camden (Ark.) *News;* Springville (N. Y.) *Journal;* Amarillo (Texas) *Times;* Newton (Texas) *Herald;* Brookline Manual Training School, Brookline, Mass. The Weekly Iberian, New Iberia, La.; Bennington (Okla.) *Journal;* Malakoff (Texas) *News;* Rockford (Ill.) *Labor News;* Kansas State College, Manhattan, Kansas; Saluda (S. C.) *Standard;* Pioneer Typesetting Company, San Diego, Calif.; Coronado (Calif.) *Citizen;* Charleston (Ark.) *Express;* El Paso (Texas) *Borderline;* Marianna (Fla.) *Times;* Country Life Press Corp., Garden City, N. Y., Elmhurst (N.Y.) *Daily Register;* Bowie (Texas) *News;* Latimer County Tribune, Wilburton, Okla; Uhrichsville (Ohio) *Evening Chronicle;* Wesleyan Methodist Publishing Association, Syracuse, N. Y.; Wilmington Stamp and Printing Company, Wilmington, N. C.; El Progresso, Corpus Christi, Texas; John J. Bentley, Tampa, Fla.; St. Mary's Industrial School for Boys, Baltimore, Md.; Wilmington (N. C.) *Star-News;* Crookston (Minn.) *Times;* Bratton Letter and Printing Company, Columbus, Ohio; Millstadt (Ill.) *Enterprise;* Frank Misch & Sons Printing & Publishing Co., Coffeyville, Kan.; Kearney (Neb.) *Daily News;* Boaz (Ala.) *Leader;* Egan Company, Inc., Dallas, Texas; Port Allegany (Pa.) *Reporter-Argus;* Williamston (N. C.) *Enterprise;* Navy Department, Washington, D. C.; Composition Service, Inc., New York City.

Installs Vacuum

The Providence *Journal* has installed two vacuum equipments, made by the Wood Newspaper Machinery Corporation, for application to its Junior Autoplates. Other recent installations reported by Wood include a heavy-duty Pony Autoplate, with vacuum equipment, installed by the Sacramento *Bee;* a standard Pony, with vacuum, for the Montgomery *Advertiser;* a standard Pony Autoplate for the Hutchinson (Kan.) *News-Herald;* and two Wood Autopasters sold to Alco-Gravure for its Hoboken, N. J., plant.

25 Hoe Power Plate Presses

Among recent purchasers of Hoe equipment is the United States Government's Bureau of Engraving and Printing which has ordered 25 new-design, 4-platen, Power Plate Presses.

Other recent orders include newspaper and metal decorating equipment. For the Florida *Times-Union* of Jacksonville, 6 new Hoe reels, automatic tensions and full-speed pasters are now being produced.

A special Hoe single-color, hand-fed rotary offset metal decorating press is being built for the Brooklyn Metal Decorating Co., of Brooklyn, N. Y.

Goss Press Shipments

New Goss presses are being shipped to the Coeur d'Alene (Ida.) *Press;* Chinese *Times,* Vancouver, B. C., Canada; Ketchikan (Alaska) *Chronicle;* and the Cornelius Printing Co., Indianapolis. The Coeur d'Alene *Press* purchased a single unit Cox-O-Type with color arrangement. The Chinese *Times'* and Ketchikan *Chronicle's* new presses are single unit Cox-O-Types. The Cornelius Printing Company is adding a new unit and folder to its present Unitube equipment.

Kluge Press

Catalog, liberally illustrated, describes the Kluge Automatic Press, as well as its mechanical features. Specifications of the 10x15 and the 12x18 presses are given. *P-Double-E File No. 5LL28.*

SAVE TIME, TEMPER & MONEY
Save time, temper and money with this ready-cut and scored topsheet of the finest treated jute. Sold by leading paper merchants in sheet sizes for high-speed presses only.
MAIL this AD
FOR FREE TRIAL SHEETS STATE SIZE AND PRESS
RIEGEL PAPER CORP.
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DRUMHEAD TYMPAN

LUBRICATED FOR LIFE
LARGE OR SMALL
There is a PULSOLATOR system for automatically lubricating every type and size of printing press.
Customers write that Pulsolator
"Increases press productive time 3-3%"
and
"Reduces oil consumption 60%"
At your request our engineer will call and demonstrate how Pulsolator obtains these savings.
Write for Bulletin B-30
RIVETT LATHE & GRINDER INC
Brighton, Boston, Mass.
Automatic oil lubrication
BLANCHARD PULSOLATOR

The Weber & Fields Touch . . . . .

Dad used to laugh his head off when Weber would stick his finger in Fields' eye. The grand old team broke up in 1906 . . . not long after Kimble brought out the idea . . . of a motor built specially for printing equipment. New idea in those days, but just as sound as the profits and prestige it has brought printers through these many years. KIMBLE ELECTRIC COMPANY, 2011 W. Hastings St., Chicago, Ill.

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Distributed by AMERICAN TYPE FOUNDERS

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TWO IMPORTANT ITEMS!

"PLATE-TAK"—The new thin tape for mounting your cuts. Faster, Surer and Cleaner.
"FLECTO"—Our newest and best gummed packing felt in .025 to .050 gauges; in sheets or strips,—as desired. Samples on request.

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NEW ECONOMY MODEL ROUSE VERTICAL ROTARY MITERER
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Printing EQUIPMENT *Engineer will welcome you at its booth during the National Graphic Arts Exposition, New York, September 25 to October 7.*

The Doyle Electric Sheet Heater

For all makes of Printing Presses, Folding Machines, Etc.

Prevents Offsetting—*by drying the ink quickly*

Removes Static Electricity—*thus increasing production*

Reduces Paper Spoilage—*by insuring perfect jogging*

Keeps Air Pure—*by absence of fumes*

Reduces Fire Hazard—*by absence of flames*

***The* J. E. DOYLE CO.**
1150 WEST THIRD STREET
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For further details send your inquiry to your nearest ATF Branch Selling House, giving the name of the press and voltage of electric current used for power and for lighting in your plant

THE PLACE TO BUY
NEW TYPE
• Cast from hard metal •
Prices as Low as 35c Per Pound and up
Send for free new catalog
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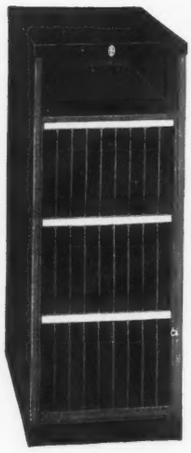

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Time and Metal. Put strip material where it belongs—next to your Saw Trimmer.
C&G Strip Cabinets $35.00
f. o. b. Milwaukee
Milwaukee Saw Trimmer Corp.
612 E. Clybourn St., Milwaukee, Wis

Technical Literature

Answering Questions About Rubber Plates

Bulletin No. 238 issued by Lake Erie Engineering Corporation contains a list of questions and answers about printing with rubber plates. Bulletin also contains technical information about the company's vulcanizing presses. *P-Double-E File No. 2F.*

Rotary Printing and Fabricating Letterpress

Four-page folder illustrates and describes Chambon's new Champlain Type 3G Rotary Letterpress for printing and fabricating in one or more colors, paper bags, box wraps, container blanks, match boxes, etc. *P-Double-E File No. 5LL36.*

MLCo. Supplement No. 1

Mergenthaler Linotype Company has issued Specimen Book Supplement No. 1. The supplement, which consists of 48 pages and cover, exhibits twenty-nine new matrix faces in sixty-one different point sizes. Other pages show additional figures and fractions; A-P-L superior figures, which include thirty-six series in 195 sizes; food-store and two-letter logotypes; short and long descenders; mathematical signs, special characters and black dots; new decorative material; and other matrices.

Weiss Booklet

Intertype Corporation is now distributing a new booklet on Weiss, one of their latest faces. The booklet is printed in two colors on Strathmore Text, and has twenty pages and cover. It contains a pen sketch of Professor Weiss, drawn by himself, and relates how he came to include type designing along with the painting of portraits, nudes, horses, flowers and other subjects. Printers may secure copies by addressing Intertype Curporation.

Lydian Bold and Italic Announced

American Type Founders has announced the release of two companion faces to Lydian and Lydian Italic—Lydian Bold and Lydian Bold Italic. Like the earlier Lydians, these bolder versions were designed by Warren Chappell. In the faces, states ATF, the simple letter form and the high degree of legibility which characterized their predecessors are maintained. To correspond with the Lydians, the new bold faces are cut in sizes from 10 to 96 point.

Stamp for Printing Industry

Simultaneously with the opening, on September 25th, of the Fifth Educational Graphic Arts Exposition, the Printing Industry will receive official Governmental recognition through the issuance of a special commemorative United States Postage stamp. Official announcement of the issuance of the stamp was made by Postmaster General James A. Farley on July 19th. The stamp will be of 3-cent denomination, printed in purple ink and commemorates the 300th Anniversary of the introduction of printing into the American colonies.

Decision of the Post Office Department to issue the stamp followed the presentation of petitions by scores of leading organizations and individuals in the Graphic Arts. Credit for the favorable decision goes to A. E. Giegengack, Public Printer of the United States and President of National Graphic Arts Expositions, Inc. In making his plea, Mr. Giegengack presented the petitions of representative groups of the industry which had been gathered by "Printing" and compiled in an attractive full leather bound volume, bound by J. F. Tapley Co.

Otto Struensee Retires

Rounding out 27 years of continuous service with the Stephen Greene Co. continuous forms printers, 34th and Market Sts. Philadelphia, Pa., Otto Struensee announced his resignation from active service on his 70th birthday, at a banquet tendered him in the ballroom of the Drake Hotel on Tuesday evening July 18.

Surrounded by company officials and department heads, most of whom have been long associated with Mr. Struensee, he was reminded of the important part he has played in the growth of the company.

William C. Lamprechter, vice president and general manager, acted as toastmaster. He read a telegram of birthday congratulations from president Clark Dunlap, who could not return from the west in time to be present.

In recognition of Mr. Struensee's untiring and loyal services, Mr. Lamprechter on behalf of the company presented Mr. Struensee with a beautiful gold watch suitably engraved. H. W. Biddle, treasurer, E. S. Rump, assistant to the president and V. B. Mateer assistant general manager, complimented the guest of honor on his unusual methods of co-operation.

STEEL PRINTER'S EQUIPMENT
Built to Suit Your Needs
If you are paying exhorbitant prices for equipment built to meet your particular requirements give Angle Steel a trial. They will build what you want, just the way you want it at prices much less than usually associated with this type of work.
Write for information on the New Mat Packing Table, a truly efficient piece of equipment, also Linotype Operator's Chairs, Galleys, Cabinets, etc.
Angle Steel Stool Co.
127 Oak Street
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No. 20-12 Practical and Inexpensive Linotype Stand

CUT DROSS LOSS
from 20 to 50%!
Why lose good metal? The Monomelt Dross Sifter has reduced dross loss in many plants from 20 to 50%. Fits any standard dross drum, easy to install and easy to operate. Save metal—lower your costs with this remarkably efficient composing room accessory.

DROSS DRUM

THE MONOMELT CO., INC.
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DUPLEX PRESSES

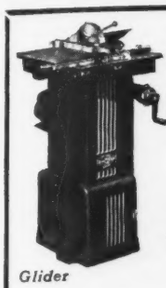
Semi-Cylindrical • Unitubular
Tubular • High Speed Flat Bed
Flat Bed • Stereo Machinery

The Duplex Printing Press Co.
Battle Creek, Mich.

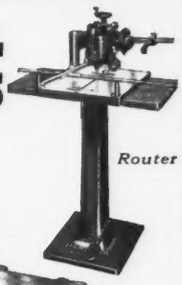
STOP OFFSET →

Get your free copy of this new bulletin—"10 Ways to Avoid Offset." Valuable—practical—shows how to save money—improve presswork.

E. J. KELLY CO. 1807 No. Pitcher Street KALAMAZOO MICH. FREE



3 VITAL OPERATIONS



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Glider

Use Hammond Equipment for unbelievably better sawing, casting and routing—3 vital operations in your plant.

Easy-Kaster "8"

HAMMOND MACHINERY BUILDERS
1604 Douglas Ave.
Kalamazoo, Mich.

PLEASE MENTION P.E.E. WHEN REPLYING TO ADVERTISEMENTS

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and
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Reels, Tensions
and Pasters...

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TINGUE
PRESS BLANKETS

Keep Your Presses Productive! Save Make Ready Time!
TINGUE on Press Blankets guarantees Superior Printing Qualities

TINGUE PRINTING PRESS BLANKETS
are guaranteed to give superior printing
. . . at low production costs . . .

TINGUE, BROWN & CO.
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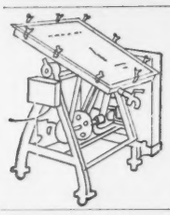

KLEAN-O-MAT PROCESS

• The only method of cleaning magazines and mats mechanically—without running out the mats. Adopted by the leading printing plants and approved by Linotype Company and Intertype Corp. Improves production—Actually pays for itself.

KLEAN-O-MAT CORPORATION
30 Rockefeller Plaza New York, U. S. A.

SEND YOUR TRIAL ORDER TODAY

MASTERPIECE CREEPER
REGULAR GAUGE .062"—TUBULAR GAUGE .090"
COYNE & PADDOCK, INC.
48-15 32nd PLACE LONG ISLAND CITY, N. Y.

EQUIPMENT BARGAINS Outstanding buys in used and new equipment, supplies are listed in July issue of our Reference Sheet. Get your copy now. Classified Dept., Editor & Publisher, Times Building, New York City.

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CROMWELL
SPECIAL Tympan PREPARED Paper

THE CROMWELL PAPER CO.
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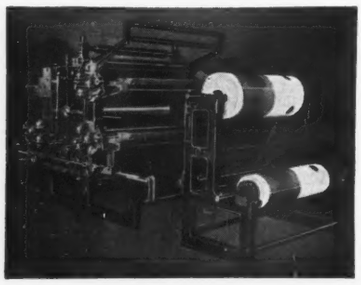
Offset Or Letter Press
GET YOUR COPY OF THIS BOOK TODAY.
NO COST—NO OBLIGATION
American Made by
WEBENDORFER-WILLS CO., INC.
Builders of Printing Machinery for over Thirty Years
MOUNT VERNON, NEW YORK, U. S. A.

GENERAL REPAIR OF LINOTYPE AND INTERTYPE MOLDS (ANY KIND, ANY SIZE). PARTS, ETC., SINCE 1912
Makers of Reid Magazine Racks, Etc.
WILLIAM REID & CO., 2271 Clybourn Ave., Chicago, Ill.

Equipment

(*Continued from Page 22*)

distribution in separate frames that can be racked back from the printing cylinders provides easy access to the press, which makes possible quick change of plate cylinders. The standard distributing system in-



Rubber or metal plates may be used on this Arctype Rotary Press which prints from one to six colors. Paper speed ranges from 300 to 800 f.p.m.

cludes 3 form rolls, 3 vibrators, 2 transfer rolls and a large standard-type ink fountain. The press is heavily constructed so as to reduce vibration. The 3¼ in. frames are well ribbed and reinforced, so that the press can be operated at high speeds with perfect rotary register.

P-Double-E File No. 5LL32.

Safety Type Carboy Pourer

Lewis-Shepard Sales Corporation announces the development of a Safety Carboy Pourer. Light in weight, it may be handled by one man. The Pourer was developed in cooperation with the Aluminum Corporation of America to handle the new all-aluminum carboys.

With the carboy resting on its base, the pourer is placed over the top and clamped by means of a threaded handle just below the shoulder. Then a pull on the handle brings the carboy over into pouring position, resting on a rocker base. Pulling the carboy pourer still further until it rests upon the handle, permits complete drainage of carboy. Accompanying illustration shows carboy in pouring position with the cap removed.

P-Double-E File No. 2E.

Electra with Electra Bold

The Mergenthaler Linotype Company announces an addition to the Electra family, by W. A. Dwiggins, a bold face of Electra which is duplexed with Electra roman, in all sizes up to and including 14 point.

HERE is a brief showing of the 12-point size of Linotype Electra with **Electra Bold.** Why do the pace-makers in **the art of printing rave over a specific face of type? What do**

"Printers, publishers and advertising people" says C. H. Griffith, Mergenthaler vice-president in charge of typographic development "who have been using Electra in many different forms of printing have expressed the desire for a bolder companion face for heads, subheads and occasional or consecutive lines. Electra Bold is a true Electra, with no distortions in any of the characters."

General Sales Manager for C-H

G. S. Crane, Vice President in Charge of Sales and Engineering for Cutler-Hammer, Inc., Milwaukee, has announced the appointment of B. M. Horter as General Sales Manager for the Company. Mr. Horter will have direct supervision of sales for the Company through its twenty-four selling territories throughout the country.

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No. 320G Vandercook
Hand Operated Proof Press
with Automatic Delivery
and Ink Fountain

Your Customer's Ok...

MEANS WHAT IT SAYS!

When your customer can see almost exactly how his job or advertisement will appear when completed, you know that his approval means something.

The No. 320G Vandercook Hand Operated Proof Press prints proofs that equal the finished work in appearance and eliminate the necessity of "explaining" the submitted proof.

Buyers of printing and advertising **expect** good proofs. They make checking easier and O K more certain. They eliminate the last minute production press changes that are costly to printer and customer.

The No. 320G Vandercook Hand Operated Proof Press prints finest quality proofs of forms up to 19"x 24½". It will take job and small automatic press forms locked in chases. It can be used for premakeready and for final check on lineup and register.

The No. 320G Vandercook Hand Operated Proof Press is sturdily constructed and easy to operate. It has automatic inking, automatic and foot operated grippers, and many other features that contribute to rapid production of fine proofs.

A NEW circular describes in detail the latest model No. 320G Vandercook Hand Operated Proof Press. Send for your copy.

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June 10th
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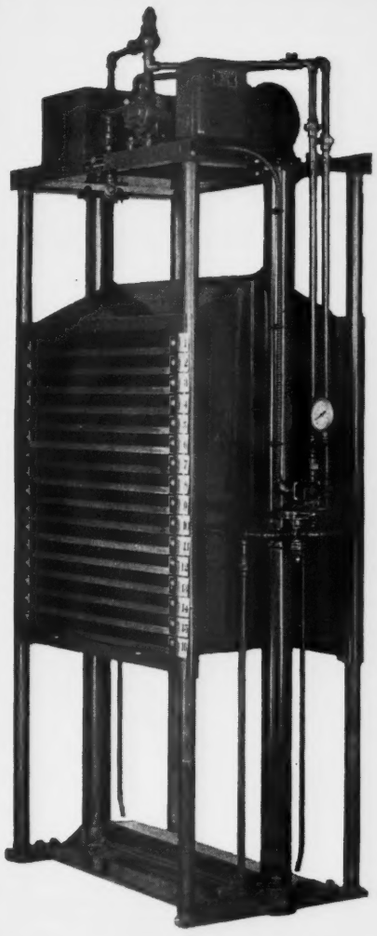

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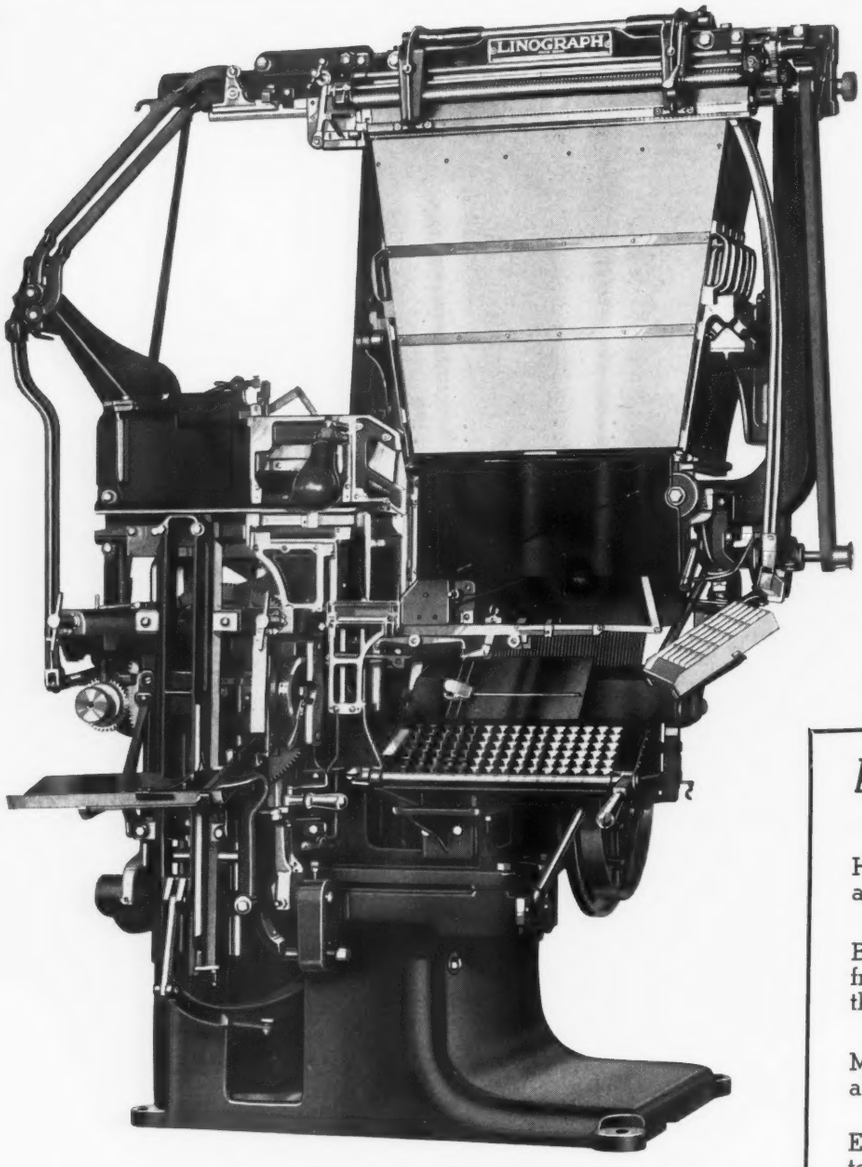

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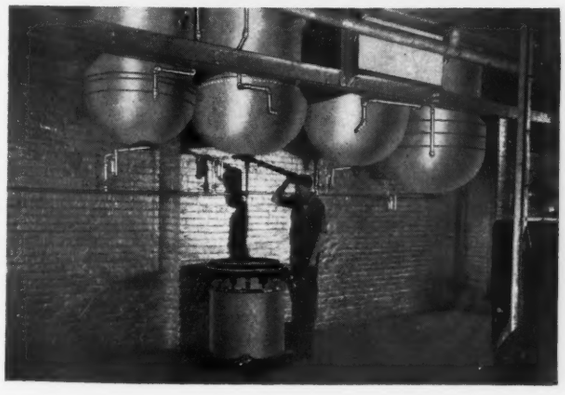

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